The CAVALRY JOURNAL

IN THIS NUMBER

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—Colonel Bruce Palmer, 1st Cavalry (Mechanized).

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—Major General J. B. Allison, Chief Signal Officer.

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—Major Robert W. Grow, Cavalry.

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—Major Frank L. Whittaker, Cavalry.

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—Major J. Tupper Cole, 9th Cavalry.

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Published Bi-Monthly by
THE UNITED STATES CAVALRY ASSOCIATION
NOVEMBER-DECEMBER, 1936

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The Cavalry Journal

PUBLISHED BI-MONTHLY BY
THE UNITED STATES CAVALRY ASSOCIATION
CAPTAIN CHARLES S. MILLER, Cavalry, Editor

VOLUME XLV, NUMBER 6 NOVEMBER-DECEMBER, 1936 WHOLE NUMBER 198

Publication Date: December 10, 1936

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THE CAVALRY JOURNAL IS NOT RESPONSIBLE FOR OPINIONS EXPRESSED IN PUBLISHED CONTRIBUTIONS

PUBLISHING OFFICE:
1406 EAST FRANKLIN STREET
RICHMOND, VA.

EDITORIAL OFFICE:
1624 H STREET
WASHINGTON, D. C.

Entered as second class matter at Richmond, Virginia, under the Act of March 3, 1879. For mailing at Special Rate of Postage provided in Section 412, Act of October 3, 1917. Copyright, 1936, by the U. S. Cavalry Association.

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Our Greatest Prize of Nations Olympic Horse, being ridden by Captain Carl W. A. Raguse, Cavalry, over wall six feet, eight inches high.

Mechanized Cavalry in the Second Army Maneuvers

By Colonel Bruce Palmer, 1st Cavalry (Mechanized)
Commanding the Mechanized Force

Foreword by the Chief of Cavalry

ONE of the principal purposes of the Second Army Maneuvers was to better inform the personnel participating therein as to the present tactical doctrines, weapons and technique of our mechanized cavalry. This purpose was furthered through bringing the Mechanized Force in contact, at some stage of the operations, with each and every opposing unit.

The Mechanized Force employed in these maneuvers was essentially a cavalry force. Its nucleus and the bulk of its strength consisted of mechanized cavalry. Its missions were cavalry missions. It was commanded by a cavalry officer.

The future of cavalry is inextricably interwoven with mobility, regardless of its source. Cavalry comprises the more mobile element of the ground combat forces and hence is charged with those combat missions which can be most effectively carried out by combining great mobility with fighting power.

Careful study of these maneuvers shows ways, means and methods by which mobility and fighting power may be combined and rendered effective. All cavalrymen must recognize the several means: Horse, truck, combat vehicle, radio, rifle, machine gun, cannon, and mortar. Our development must tend to the improvement of these and other means, to their proper combination in fighting teams and to the application of basic cavalry principles to their employment. This is the task of cavalry.

Leon B. Kromer,
Major General,
Chief of Cavalry.

I

General Scheme of the Maneuvers

The Second Army consisting of the Regular and National Guard troops stationed in the Vth and VIth Corps Areas held two concentrations in August, the first at Fort Knox and the second near Allegan, Michigan.

The maneuvers at Fort Knox consisted of operations by a corps including the 37th and 38th Divisions, the 10th Brigade, and the 54th Cavalry Brigade opposed by the Mechanized Force. The maneuvers at Allegan consisted of operations by a corps including the 32d and 33d Divisions and 1st Squadron, 14th Cavalry, opposed by the Mechanized Force.

The Mechanized Force in both phases was the Red force.

II

Premaneuver Training

Plans

During the past year the training of the 7th Cavalry Brigade (Mechanized), which included the 1st Cavalry (Mechanized) and the 1st Battalion, 68th Field Artillery (Mechanized,)* was planned and progressively executed with a view to its participation as the basic part of the Mechanized Force in the Second Army Maneuvers of 1936.

Planning for the maneuvers was based on the greatest possible utilization of mechanical power and on an effort to derive the utmost in combat power from every combat agency of the Force. Through the medium of constant practice throughout all ranks leadership and cohesion were striven for. An effort was made to imbue all officers in the command with a spirit of progress as well as a realization of the possibilities of modern weapons employed in modern ways. At the beginning it was appreciated that the peculiar characteristics of the modern organizations which were to constitute the Mechanized Force, endowed it with capabilities of mobility and striking power far beyond any force which has ever participated in peacetime maneuvers of our Army. Later, both at Fort Knox and in Michigan, every effort in the tactical employment of these various organizations was directed toward unifying them in a fighting force of this very description.

Throughout the year, in all field exercises, field maneuvers, map problems, demonstrations, marches, and staff rides, the presence of motorized infantry, horse cavalry, and aviation has been actual or assumed. As a result of this planning and study, certain definite missions for the employment of horse cavalry, motorized infantry, and aviation with mechanized cavalry were evolved dur-

*In September the 13th Cavalry was assigned to the 7th Cavalry Brigade (Mechanized).

COMMANDER OF THE MECHANIZED FORCE AND SOME MEMBERS OF HIS STAFF

Right to left: Colonels Bruce Palmer and Henry W. Baird, Lieutenant Colonels Willis D. Crittenberger and Guy W. Chipman, all 1st Cavalry; and Lieutenant Colonel Alvan C. Sandeford, 68th Field Artillery. Vehicles: Right, Colonel Palmer's command car; center, an armored car; left, artillery commander's command car.

ing the preparatory period of training. Accordingly, when the Mechanized Force went into the Second Army Maneuvers, it was with a rather definite understanding of the assistance these arms would be able to render the mechanized cavalry brigade.

In order to provide the Mechanized Force with the element of surprise in its operations against the Blue force it was anticipated that night marches would be the rule rather than the exception. By means of night marches and the superior mobility of the Mechanized Force it was hoped to obtain the greatest degree of surprise action which would result in a maximum avoidance of collision with the enemy's prepared position.

And finally, in compliance with the instructions from the Chief of Staff of the United States Army, that nothing is more important to the future efficiency of the Army than to multiply its rate of movement, every concession consistent with the preservation of combat efficiency was made to provide speed of operation for the Mechanized Force.

Training Objectives

The objectives of the training preparatory to participation in the Second Army Maneuvers of 1936 were:

(1) Development of leadership and professional skill throughout all ranks.

(2) Development of the 7th Cavalry Brigade (Mechanized) and attached units into an efficient combat team.

(3) Development of tactics which would utilize to the greatest degree possible the mobility of the mechanized brigade and attached units, and the potentialities of modern weapons.

(4) Development of a smooth functioning staff and system of communication which would result in reducing the time interval between the commander's issuance of orders and their execution.

(5) Fullest utilization of mechanical power to provide the resultant economy of man power.

(6) Bringing vehicular equipment to the maximum state of efficiency.

With the above objectives in view the preparatory training emphasized the following:

(1) The conduct of tactical problems on the terrain.

(2) Employment of mechanized cavalry in conjunction with artillery, infantry, horse cavalry, and aircraft.

(3) Operations against infantry, horse cavalry, aircraft, and tanks.

(4) Defense against chemicals.

(5) Tactical use of smoke in connection with mechanized cavalry.

(6) Efficient staff functioning stepped-up to the tempo of mechanized operations.

(7) Communications on the march and in combat.

(8) March discipline.

(9) Night marches, night operations, and improvising suitable lighting arrangements for command posts operating at night.

III

FORT KNOX PHASE

Composition of the Mechanized Force

Force Commander: Colonel Bruce Palmer, 1st Cavalry (Mechanized).

Headquarters and Headquarters Troop, 7th Cavalry Brigade (Mechanized).

1st Cavalry (Mechanized).

1st Battalion, 68th Field Artillery (Mechanized), (2 firing batteries).

1st Battalion, 19th Field Artillery (Motorized), (2 firing batteries).

113th Observation Squadron (1 flight 12th observation squadron — August 8th).

201st Infantry (Motorized), (less 1 battalion).

19th Ordnance Company, (Motorized).

Company E, 5th Quartermaster Regiment, (less 2 platoons).

Operations

The operations may best be described by the statement that the general mission of the Mechanized Force was to contain the larger, less mobile Blue forces. The resulting actions consisted of delaying action against the heads of columns and attacks against flanks and rear. All were

characterized by high mobility combined with great concentrations of fire power and, when appropriate, shock power. Ability to strike, withdraw and in a very short time strike again miles away was repeatedly demonstrated.

August 5th

On August 5th at 3:00 P.M. the Mechanized Force left Fort Knox and moved south on U. S. Highway 31-W to a bivouac area about three miles north of Elizabethtown, Kentucky. (Eight miles southeast of Vine Grove.)

August 6th

The mission of the Mechanized Force was to delay an expected advance of a Blue force estimated as a corps, known to have bivouacked the afternoon before in the vicinity of West Point, Kentucky. The Commanding Officer, Mechanized Force, decided to move north the morning of the 6th; delay, as much as possible, the debouchment of the Blue force from the passes leading south from the Ohio valley; and, thereafter, seek suitable opportunities for mounted combat. Request was made of the Red aviation to attack Blue troops on the march and in bivouac at 9:00 A.M., and also to attack the Blue airdrome at 5:00 P.M.

Troop A, 1st Cavalry, the reconnaissance troop, left the bivouac at 6:00 A.M. to reconnoiter the zone: Salt River to Vine Grove—Garrett Road. First contact was made with the enemy when a platoon of this troop encountered Blue cavalry with antitank weapons near New Stithton at 6:22 A.M. This contact was reported to the Force Commander who was still at the bivouac.

The advance guard proceeded rapidly to Vine Grove Junction where a halt was made until information was received from Troop A that the Vine Grove Road was clear of enemy troops. At this halt, too, information was received that Troop A had disposed of the antitank guns at New Stithton. Great care was used in entering New Stithton. When within 100 yards of the junction Wilson Road—Dixie Highway (New Stithton) at 8:00 A.M., three antitank guns appeared and caused a ten-minute delay.

The main body reached the southern exit of New Stithton at 8:05 and the Force Commander went forward for a personal reconnaissance. Reports from air observation having indicated that there was a considerable cavalry force in the area north of the road New Stithton—Fort Knox, the two companies of the 201st Infantry in the advance guard were ordered to occupy the high ground west of New Stithton and two more companies were brought forward and extended the line to the north, assuring safety from flank attack for the main body.

At 8:15 A.M. the advance guard, increased by the addition of one platoon of combat cars and two companies of infantry, moved north on the Wilson Road. The main body remained at New Stithton where the situation was explained by the Force Commander to his squadron and artillery commanders. During this conference considerable additional information was received both from air observation and from the reconnaissance troop. As early as 8:30 A.M. Blue infantry in trucks was reported advancing on the Dixie Highway and shortly thereafter enemy units were reported moving south on both Wilson and Lincoln Roads. (Figure 1.) It was apparent that the Blue force was advancing in at least three columns.

At 8:30 A.M. the advance guard reported that they had seized the high ground extending across Wilson Road east of Fort Knox. The Force Commander ordered the artillery into position just north of New Stithton, protected by the infantry already in position. The movement was quickly executed, both battalions going into position at 8:41 A.M., and they were thereafter constantly engaged in firing at various targets, observation being afforded by airplanes, the artillery liaison officer with the advance guard, and observers with each squadron. At this time also the Force Commander announced his plan to move the whole force forward to the vicinity of BM 708, send one squadron in the vicinity of OP 6 and one to Tip Top and delay the Blue advance from the vicinity of these positions. This movement was started at 8:56 A.M.

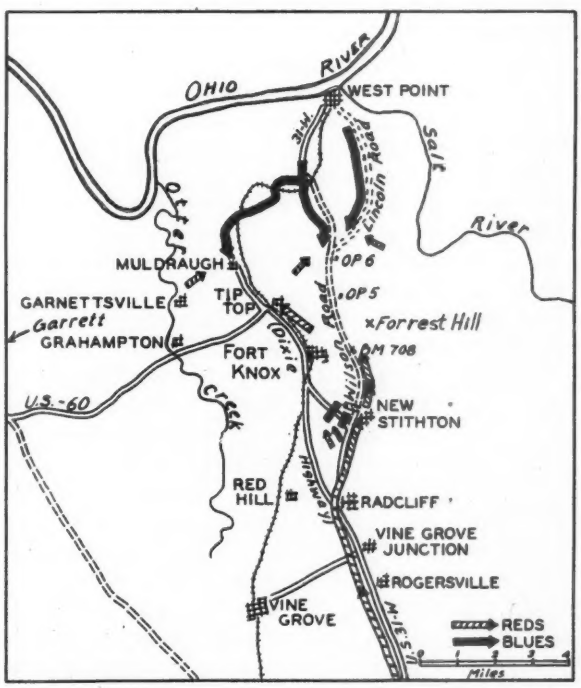


FIGURE 1—*The Mechanized Force moves northward to delay the advance of the Blue Corps on Nashville. (Note that in Figures 1 to 8, inclusive, the locations and movements of the Mechanized Force are indicated by hachured symbols.)*

The Force Commander proceeded to the high ground south of BM 708, where three platoons of the machine guns of the advance guard were found in position astride the road with one platoon of infantry on Forrest Hill (right flank). The remainder of the advance guard had continued to the north. Two companies of infantry were brought forward and relieved the machine gun platoon at

9:30 A.M. and these platoons moved forward. Orders were also given to displace Battery B, 68th Field Artillery, forward to a position south of OP 5.

At 10:00 o'clock, instructions were issued for the 2d Squadron, 1st Cavalry, with one section of mortars, and three platoons of machine guns, to proceed to the vicinity of Tip Top, attack enemy troops reported on Dixie Highway, and force their deployment. The 1st Squadron, 1st Cavalry, with one section of mortars, was ordered to proceed to OP 6 where it would absorb the advance guard, attack and force deployment of enemy troops on Wilson and Lincoln Roads. Both squadrons were under way by 10:15 A.M.

The 1st Squadron proceeded, without opposition, to the high ground at OP 6 where they found the combat car and machine gun elements of the advance guard in position and the infantry in support near OP 5. By 10:30 A.M. the 1st Squadron had taken over this position, placing Troop B east and Troop C west of Wilson Road, with two platoons of machine guns attached to each troop. The mortars were held just south of OP 6 prepared to support either troop.

The 2d Squadron moved unopposed. One platoon of combat cars of Troop F, the machine gun platoons and mortar section occupied Tip Top at 10:35 A.M. This important road junction was found free of enemy troops. Troop F, less detachments, advanced to the Muldraugh rifle range (east of Muldraugh) and returned to Tip Top having skirmished en route with small detachments of infantry and having attacked a battery of artillery in position. The 2d Squadron assembled in the vicinity of Tip Top, prepared to oppose any advance of enemy columns on the Dixie Highway and roads east thereof.

Between 10:30 and 11:00 A.M. the remaining battery of the 68th Field Artillery, Battery A, and the battalion of the 19th Field Artillery were displaced forward from New Stithton to positions near Battery B.

The movement of the artillery forward, coupled with the reports that the enemy cavalry was moving south, permitted the four companies of infantry which had been left west of New Stithton to be moved forward.

Shortly after 11:00 A.M. it became apparent that the enemy troops which had come south on the Wilson Road were working their way across country to the west and were forcing their way toward the gap between the 1st and 2d squadrons of the 1st Cavalry. Under instructions from the Force Commander, the left elements of the 1st Squadron started a withdrawal at 11:20 A.M., which was carried on by platoon, successively from the left, until, at 12:00 noon, the entire squadron had withdrawn to the OP5 ridge, the last elements withdrawing under cover of a simulated smoke screen put down by the section of mortars attached to the squadron.

The situation at noon was as follows: Blue forces estimated as a division had advanced on Lincoln and Wilson Roads. These forces had been delayed and forced to deploy. The Blue force which had advanced on the Dixie Highway had turned southwest on the Muldraugh-Garnettsville Road. A small Blue force held the Grahampton crossing of Otter Creek. The Blue cavalry had moved south at least as far as Radcliff, on U. S. Highway 31-W.

The Mechanized Force Commander decided:

To leave the 201st Infantry (less three companies) supported by one battery of artillery, in position on OP 5.

To have the 2d Squadron move north on the east side of the railroad to a point east of Muldraugh and attack the Blue forces at that place, stopping the movement of further forces onto the Muldraugh-Garnettsville Road.

To move the remainder of the Mechanized Force south on Wilson Road and Dixie Highway to Radcliff and, from there, via Red Hill, pass west of Fort Knox, to a position from which the western division of the Blue forces advancing on Garnettsville could be attacked.

To send three companies of the 201st Infantry south of Radcliff on Dixie Highway to protect the flank of the column during the change of direction at that point and then to have this force move to Red Hill to protect the rear of the Force from the Blue cavalry.

The movement south on Wilson Road was commenced at 12:21 P.M. (See Figure 2.)

The order to the 2d Squadron to attack Muldraugh was sent in code and in decoding the message an error was made, and the Commanding Officer, 2d Squadron, understood he was to attack east of Garnettsville instead

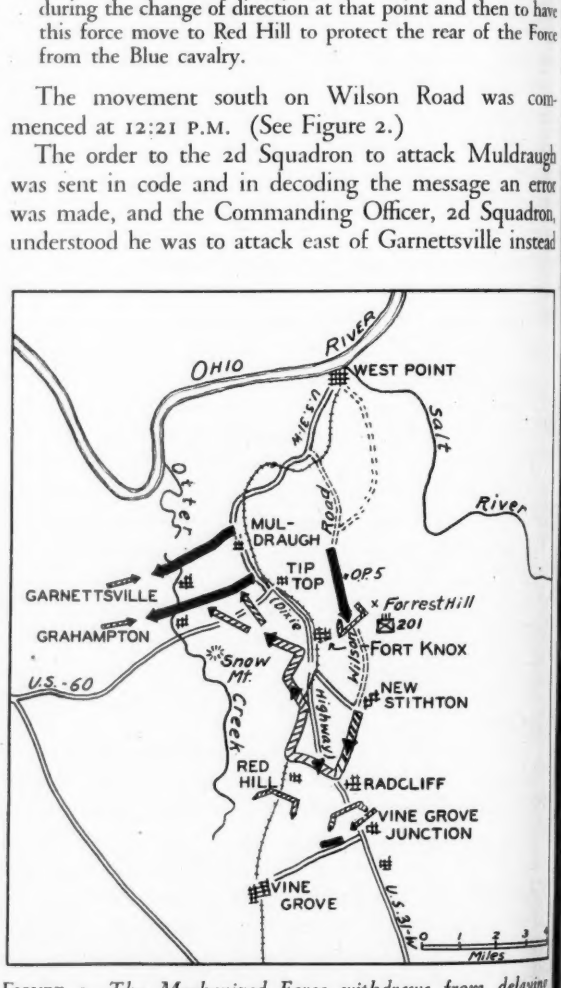


FIGURE 2—*The Mechanized Force withdraws from delaying action on east flank, and attacks western columns.*

of east of Muldraugh. The squadron moved in a semicircle to the south and west and at 12:30 P.M. was preparing to jump off when orders were received to join the main body at Radcliff. On receipt of this order the 2d Squadron withdrew through the west edge of Fort Knox

to Radcliff and followed the main body in its movement north.

The column continued the march until 2:03 P.M., when the head arrived at the southwest exit of Fort Knox. The three batteries of artillery were put into position here. It was found, by reconnaissance, that no large units were on the Dixie Highway, but that a large enemy force was on Highway 60. Orders were issued to attack, squadrons abreast, the 1st Squadron on the right. The machine gun platoons remained attached to the squadrons, to be placed in position by the squadron commanders nearer Highway 60. The Mortar Platoon, 1st Cavalry, went into action, putting down a smoke screen on Snow Mountain and south of Highway 60.

The attack was launched at 3:35 P.M. and was still proceeding when halted at 4:00 P.M. by the termination of the maneuver for the day.

The 201st Infantry force left in position on the OP 5 ridge was gradually forced back to the Forrest Hill ridge where they were in position and engaged with the Blue forces at the termination of the day's maneuvers.

Comments

The first day's operations brought out the following points particularly:

1. Early and rapid distant reconnaissance by Troop A. Note particularly in the narrative of succeeding days how this troop moved rapidly around the flanks and rear of the Blue forces and between the Blue columns, seldom being observed or attacked yet always locating the important hostile units and promptly reporting them.

2. Advance guard action conforming to traditional cavalry employment. Note the greater distances by which a mechanized advance guard precedes its main body.

3. Early entry of artillery into action from locations well forward in the column. Note particularly the large number of artillery observers and their attachment to different units. Artillery fire must be delivered promptly and effectively and this demands that artillery observers be with every unit which may require artillery support, for the purpose of providing the necessary artillery observation.

4. The use of motorized infantry to take over the holding missions.

5. The formation of appropriate combat teams by the attachment of machine gun, mortar, and infantry units to combat car squadrons to meet varying situations.

August 7th

The general plan of the Force Commander for August 7th was to have the 201st Infantry, supported by one battery of artillery, move north on the Dixie Highway as far as possible, then to execute a series of delaying actions, retiring along the Dixie Highway as forced to do so. In the meantime the remainder of the Force was to execute a wide envelopment, moving to the northwest (Figure 3) to strike the rear of the west flank of the enemy near Garnettsville. Orders for these movements were given in the evening of the 6th at which time the reconnaissance troop was ordered to be at Garnettsville by daylight, reporting the practicability of a crossing for the Force at that place. In addition this troop was given a general reconnaissance mission, paying particular attention to the east flank of the Blue force where it was expected that an attack would be made later in the day.

The attack aviation was given the following missions:

To attack, at dawn, the Blue troops on the march in Fort Knox and immediately south thereof with machine guns, personnel bombs, and gas.

To attack, at 3:00 P.M., the Blue airdrome, to destroy enemy planes and personnel.

Troop A, 1st Cavalry, left the bivouac at 3:45 A.M. The advance guard moved out at 4:48 and the main body at 4:58.

When the head of the main body reached Highway 60 at BM 729, information was received from an armored car platoon that contact had been made with a small enemy force about one and one-fourth miles to the east and that a large enemy column was crossing Highway 60 on the Garnettsville-Vine Grove Road. A platoon of machine guns was sent east on Highway 60 to form a march outpost. Orders were issued at once for the artillery to go into position southeast of BM 729, bringing fire on the enemy column on the Garnettsville-Vine Grove Road with air observation.

The commanding officers of squadrons and mortar platoon were assembled at BM 729 and the situation explained. (Figure 3.)

The advance guard on the Garrett-Garnettsville Road

ORGANIZATION OF CAVALRY REGIMENT (MECHANIZED)

ARMORED CAR TROOP (Reconnaissance Troop)

TROOP A

4 platoons—17 armored cars.

MACHINE GUN TROOP

3 machine gun platoons } { 1 combat car and
1 rifle platoon } { 22 personnel carriers
(24 cal. .30 and 12 cal. .50 ground machine guns.)

1st SQUADRON

TROOPS B and C.

4 platoons each—27 combat cars to squadron.

2d SQUADRON

TROOPS E and F.

4 platoons each—27 combat cars to squadron.

HEADQUARTERS TROOP

Staff Platoon—1 combat car, 2 armored cars, 2 scout cars.
Communications Platoon—operates all radio in regiment.
Mortar Platoon—6 4.2" self-propelled chemical mortars.

SERVICE TROOP

Transportation Platoon.
Maintenance Platoon.

(NOTE: For maneuvers, 1st Cavalry was organized with Headquarters and Service Troops combined and with 3 additional machine gun platoons in Machine Gun Troop.)

was in action against a force, estimated as two battalions of Blue infantry, one mile west of Garnettsville. This force had been identified as a part of the 10th Blue Brigade, which had bivouacked in the vicinity of Garnettsville.

A large force was marching south on the Garnettsville-Vine Grove Road, the head of the column having passed Highway 60. A march outpost of this force had moved west on Highway 60 where it was in contact with our covering force.

A large column was moving south on the Dixie Highway and the head of the column had been forced to deploy by the 201st Infantry with one battery of artillery in support.

Between these two Blue forces, another column was moving south from Fort Knox.

A cavalry force estimated as a regiment had bivouacked near Vine Grove and was moving south and east from that place. Some cavalry had been reported south of Fort Knox.

The Force Commander decided on the following plan and issued the necessary orders:

> One troop of combat cars from 2d Squadron, 1st Cavalry, to join the advance guard west of Garnettsville; the combined force to attack the Blue infantry at this point; turn south attacking the forces on the Garnettsville-Vine Grove Road in rear and flank; and continue the movement south and southwest to rejoin the command near St. Martins.
>
> Remainder of the 1st Cavalry to move east, astride Highway 60, and attack the enemy column on Garnettsville-Vine Grove Road. After passing through this column, to turn south attacking that part of the column south of Highway 60 in flank and rear; and assemble in vicinity of St. Martins.
>
> Artillery, from present position, to support both attacks.

The attack east astride Highway 60 was launched at 7:40 A.M. Actually this attack could not be made as planned due to the maneuver instructions which prohibited cutting woven wire fences or molesting fields containing growing crops. It was necessary to simulate this attack by moving in column on the highway until the road junction two miles east of BM 729 was reached. Here a limited area was available for a mounted attack and Troop E, 1st Cavalry, less one platoon, was put in action north of Highway 60 and moved northeast parallel to the highway until it reached the boundary of the unleased land west of the Garnettsville-Vine Grove Road. This troop then returned to a point northeast of the initial point of its attack. Simultaneously with Troop E's attack, one platoon of Troop E moved northeast, south of Highway 60, but was halted by the umpires almost at once to avoid the Blue infantry in this area. The chief umpire determined that the only method of clearing the area was to order the Mechanized Force to withdraw to St. Martins and the Blue forces were ordered delayed half an hour.

During the attack and withdrawal of the main body the force on the Garrett-Garnettsville Road, consisting of Troop F and five platoons of the Machine Gun Troop, 1st Cavalry, attacked the infantry battalion on that road and were successful in driving it back. Turning south this force moved to the vicinity of the junction of Highway 60 and the Garnettsville-Vine Grove Road where enemy forces were found on both roads. The column on Highway 60 was attacked and proved to be an infantry force of about one battalion, acting as rear guard, and the 112th Medical Regiment. The senior umpire present ruled both of these forces out of action and the mechanized detachment continued south, attacking the 112th Engineers, found in route column, and forcing the development of two infantry regiments which preceded the

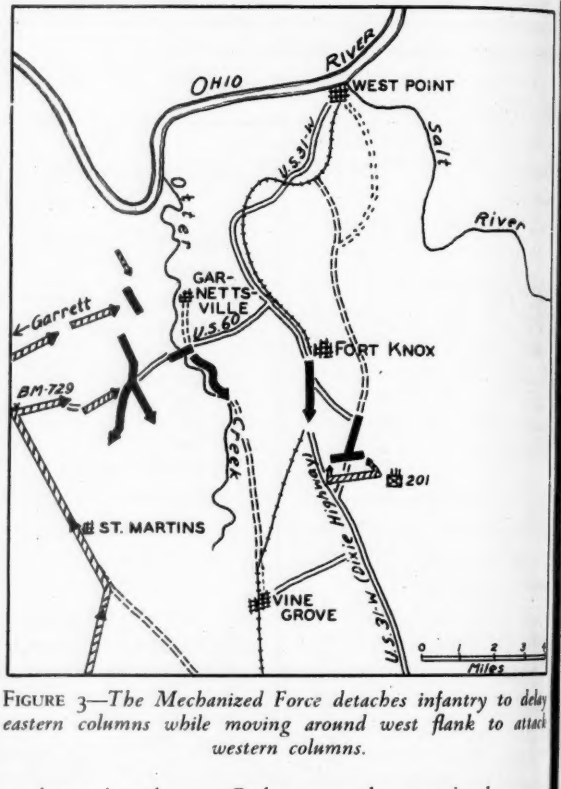


FIGURE 3—*The Mechanized Force detaches infantry to delay eastern columns while moving around west flank to attack western columns.*

engineers in column. Orders were then received at 9:15 A.M., to rejoin the main body, moving via Highway 60 and St. Martins, the umpires having ruled that this force should have retired with the remainder of the Mechanized Force.

At 9:45 A.M. the movement south from BM 729 commenced. The column moved south to St. Martins, where it turned west then northeast through Garrett towards Garnettsville without opposition. Approaching Garnettsville a scattered force of infantry, apparently furnishing local protection for the trains of the 10th Blue Brigade, was encountered and overcome by the advance guard. When this contact was reported, the artillery was put in position three miles east of Garrett at 11:27 A.M. to be ready to support an attack on Garnettsville if necessary. The advance guard pushed on into Garnettsville, encountering no organized resistance. The command was halted to allow the advance guard to push well out toward Muldraugh.

After crossing Otter Creek the column turned south on the narrow rocky, hilly, unimproved road joining Highway 60 half a mile east of Grahampton.

The Force Commander decided to move to a location where he would have more freedom of action pending the receipt of further enemy information. Artillery was ordered into position one-half mile north of Grahampton, prepared to support the cavalry, and the remainder of the force was brought forward. The commanding officer of the 2d Squadron was ordered to move southeast, keeping east of Snow Mountain, in attack formation with Troops E and B, the leading troops in column, attacking any enemy forces encountered. The commanding officer of the 1st Squadron was ordered to follow up this attack with Troops C and F. The Dairy Farm, west of Fort Knox Air Field was selected as an assembly position. One platoon from the 1st Squadron and one section of machine guns were ordered to Snow Mountain to seize that important observation point and the artillery was ordered to displace forward if the attack was a success.

The attack was launched at 2:50 P.M. No opposition developed to the attack of the 2d Squadron and the 1st Squadron followed in column behind it. The command assembled in the vicinity of the Dairy Farm at 3:10 P.M. and the 2d Squadron moved 500 yards south to cover the assembly and displacement forward of the artillery to a position 1,500 yards northeast of Snow Mountain.

Orders were being issued for a further movement south to overtake the Blue troops when, at 4:07 P.M., the maneuvers for the day were terminated.

While the mechanized units had been engaged against the west of the Blue corps, the 201st Infantry had been most successful in its action against the eastern portion. This regiment moved unopposed into the Saunders Springs area and had sufficient time to take up its position completely before the leading elements of the Blue forces appeared on the Dixie Highway.

The Blue forces deployed and commenced a very cautious advance which, by 9:25 A.M., had progressed to such an extent that the 201st Infantry started to withdraw. Small delaying parties remained at each ridge line to compel the enemy to continue deployed while the main body of the regiment retired to Rogersville and organized another position in depth. This position was fully occupied by 10:40 A.M. At about this time it was learned that a Blue cavalry force was in rear of the regiment and the dispositions had to be altered to provide defense in that direction as well. The position at Rogersville, between a Blue division on the north and Blue cavalry on the south, continued to be occupied by the 201st Infantry until the termination of the maneuver at 4:00 P.M.

At completion of the day's exercise the flight of the 113th Observation Squadron was relieved by a flight of the 12th Observation Squadron from Brooks Field Texas. This unit remained a part of the Mechanized Force for the remainder of the maneuvers.

Comments

1. Note how, on this day, the motorized infantry with one battery of artillery operated independently but in coöperation with the balance of the Mechanized Force. Its action was purely delaying and its axis of withdrawal a good highway leading straight to the rear. It was opposed except for a short time, by infantry only. The termination of the maneuver prevented a conclusion to what would have been an interesting action with the 201st Infantry opposed to infantry in front and cavalry in rear.

2. The first attack of the Mechanized Force was delivered against the Blue flank. Withdrawal from this action was followed by a maneuver practically across the entire rear of the Blue Corps to a location admirably suited to an attack against the rear of the easternmost division.

3. After crossing to the east of Otter Creek the Force Commander was uncertain of the location of hostile units to the south and east. He was in an unfavorable location due to difficult terrain. Rather than await the result of

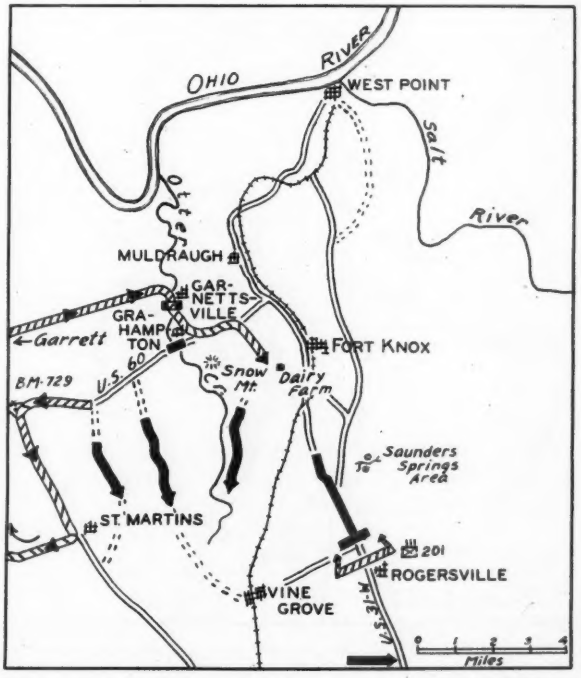


FIGURE 4—*The Mechanized Force moves around west flank to the north to attack hostile columns from the rear.*

reconnaissance, he advanced in an attack formation to the southeast. He "attacked terrain" to secure a suitable base for future operations. No enemy was encountered but had one been met the Mechanized Force would merely have continued its maneuver which was conceived upon the supposition that the enemy might be met.

August 8th

During the afternoon of the 7th of August information was received from the Red high command that an eastern state had declared war on the Blues and a new mission,

that of containing the Blue force south of the Ohio River, was given the Mechanized Force. The plan of action decided upon by the Force Commander for the 8th of August contemplated a wide envelopment of the Blue east flank and rear. Due to the unusually rugged country on this flank and the scarcity of roads, the greatest care had to be exercised in this movement to prevent the Mechanized Force from being forced into combat on most unfavorable terrain. It being of the greatest importance that, before becoming involved in this movement, the Force Commander be assured he could cross Mill Creek from east to west, there was sent from the bivouac at 10:00 P.M. a force consisting of one platoon of Troop A, 1st Cavalry (armored cars), one platoon of Machine Gun Troop, 1st Cavalry, and one platoon of the 201st Infantry, equipped with pioneer tools to repair any damage to the crossings. This force was directed to move rapidly, by the same route later taken by the main

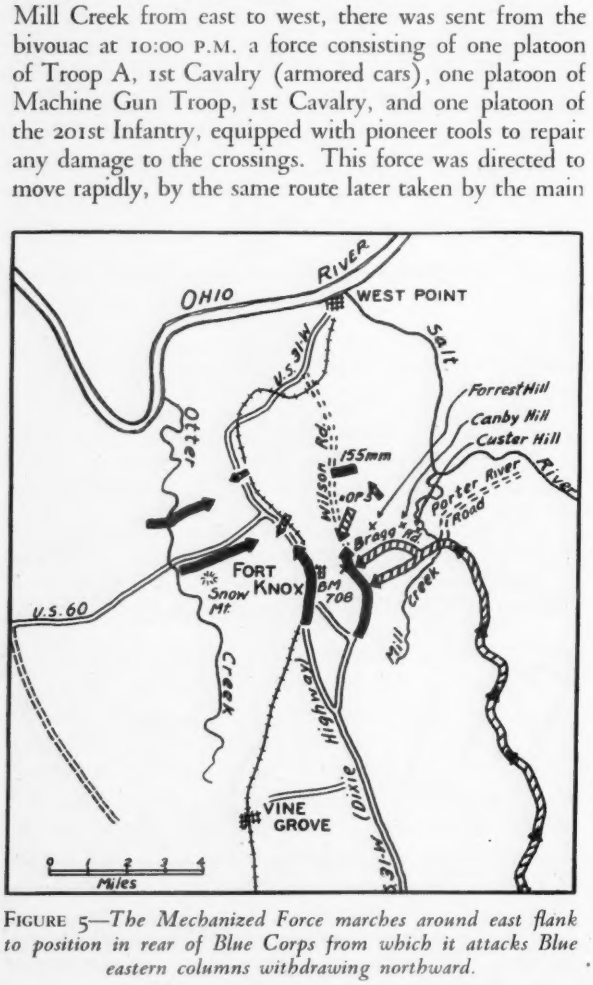


FIGURE 5—*The Mechanized Force marches around east flank to position in rear of Blue Corps from which it attacks Blue eastern columns withdrawing northward.*

body, to the Porter River Road crossing of Mill Creek and report conditions to the Force Commander by radio.

The attack aviation mission for the 8th of August was to put down a smoke screen on OP 6 and Snow Mountain at 10:00 A.M. to screen a Red attack on OP 6 at that hour.

The main body of the Mechanized Force left the bivouac at 12:15 A.M., August 8th. At 1:00 A.M., while en route, information was received from the advance force that it had reached the Mill Creek crossing without opposition, had seized the crossing and had established a bridgehead to the west. (Figure 5.) The roads followed by the command became increasingly worse as the march continued. They were narrow, full of turns, rocky in some places and in others muddy. Approaching the Mill Creek Valley there was little more than a trail. The march over these roads constituted a severe test of all vehicles participating. The column was greatly delayed by these conditions and became quite extended. The head of the main body reached the Mill Creek crossing at 3:50 A.M., just as the first light of dawn was becoming visible. The head of the column moved up to the junction of the Porter River Road and Bragg Road and halted to allow the column to close up, west of Mill Creek. One platoon of the Machine Gun Troop was sent up Bragg Road and two platoons up the Porter River Road as a march outpost. The infantry platoon which had accompanied the advance force was assembled and sent forward to join the machine gun platoon which had moved up Bragg Road.

The two machine gun platoons advanced up Porter River Road to a point about 1,200 yards east of Wilson Road when fire was opened on them from the woods south of Porter River Road. An engagement took place in which Reds were successful and the force continued to advance until it came under fire of an enemy force just east of Wilson Road estimated as a regiment of infantry with artillery support. The two platoons secured the high ground extending north to Forrest Hill and halted.

The infantry platoon sent up the Bragg Road did not contact the machine gun platoon previously sent up that road and found itself within 100 yards of the Blue camp. An attack was made on this camp, and the 112th Engineer Train suffered 50 per cent casualties from the attack and was forced to evacuate.

The 1st Squadron, 1st Cavalry, which had assembled on Porter River Road by the time of first contact of the two machine gun platoons was sent forward via Porter River Road under orders to proceed via Forrest Hill and BM 708 to OP 5. It was deployed on Forrest Hill at 5:11 A.M., the line being extended to the south by the two machine gun platoons. Batteries A and B, 68th Field Artillery, were placed in position in readiness on Bragg Road and, at 5:39 A.M., the 1st Squadron executed an attack, with artillery and machine gun support, on an enemy force near BM 708.

The umpires imposed a 30-minute delay on the Blue Force and ruled the 1st Squadron out of action for a like period. The squadron withdrew to Forrest Hill.

At 6:02 A.M., Battery A, 19th Field Artillery, went into position near Canby Hill. Battery B, 68th Field Artillery, displaced forward to Custer Hill at 6:30 A.M.

Orders were issued at 6:40 A.M. for the 1st Cavalry to attack from the vicinity of Forrest Hill in the direction of Fort Knox, returning to Forrest Hill. This attack was executed at 6:55 A.M. by the two squadrons abreast, supported by artillery, mortars and four platoons of machine guns. The squadrons were in line, 1st on the right, 2d on the left, troops in column of platoon. The machine gun platoons followed the advance closely. A brigade of infantry was encountered on Wilson Road and

the attack was a success, but the 1st Cavalry was ruled out until 7:30 A.M. The 2d Squadron assembled north of Forrest Hill facing north under orders to be prepared to attack or move to the north, and the 1st Squadron moved to the vicinity of OP 5. Machine guns and mortars were attached to each squadron.

The remaining battery of field artillery (Battery A, 68th Field Artillery) displaced, at 7:18 A.M., to a position 500 yards northwest of Canby Hill.

At 7:30 A.M., under orders from the Force Commander to attack a Blue battery located north and west of BM 708, the 1st Squadron moved west of Wilson Road at OP 5 and toward the south, Troop B on the right, Troop C on the left. This attack overran two Blue batteries.

In addition, Troop C conducted a successful attack on Wilson Road west of Forrest Hill on the advance guard of a brigade. The decision was finally given that the Blue troops were delayed 30 minutes and the 1st Squadron was out of action for a like period. At the end of this delay, the 1st Squadron moved to a position in readiness in rear of Forrest Hill.

The 2d Squadron was moved north to a position east of BM 768 and ordered to attack OP 6. At 9:00 A.M. it attacked, moving northwest, and, on Wilson Road, encountered the Blue brigade referred to in the preceding paragraph. This attack was supported by three platoons of machine guns and a section of mortars. Due to the direct fire of a battery, the squadron was halted short of the road. The squadron had lost six combat cars and the remainder were ruled out until 9:30 A.M.

The squadron withdrew behind the ridge 400 yards east of Wilson Road where the three platoons of the Machine Gun Troop attached to the squadron, were in action, and at 9:30 supplemented the fire of this force with that of its remaining cars.

At this time orders were issued for the assembly of the 1st Cavalry south of OP 5 to attack OP 6 in conjunction with the smoke screen requested of the attack aviation. (Figure 6.) The 1st Squadron moved to the assembly position but the 2d Squadron continued the fire fight. Following the laying of the smoke screen at 10:00 A.M., the 1st Squadron attacked OP 6. The 1st Squadron withdrew to Tollgate Creek valley.

While the 1st Squadron was attacking OP 6, and in the interval following, the 2d Squadron continued the fire fight until at about 10:40 A.M. the umpires ruled that the Blue artillery had made the position untenable. The squadron, accompanied by its machine guns and mortars, then withdrew.

The Force Commander now decided to concentrate the Force in the vicinity of Forrest Hill and consider the advisability of moving to the west flank of the Blue corps. Orders were issued accordingly and at 11:20 A.M. the concentration was completed.

At noon orders were received terminating the Fort Knox phase of the maneuvers. The command moved into Fort Knox where the 201st Infantry and Companies A and B, 5th Quartermaster Regiment, passed from control of the Mechanized Force.

The flight of the 12th Observation Squadron remained at Fort Knox until the 12th and then displaced to Kellog Airport, Battle Creek, Michigan.

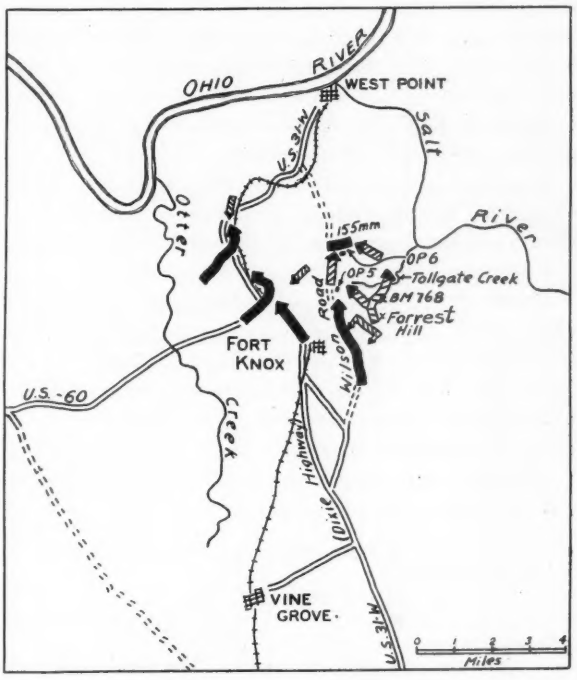


FIGURE 6—*The Mechanized Force advances to advantageous position from which it can attack withdrawing column.*

Comments

1. The night march was conducted partly with and partly without lights. Lights were turned out when the Force reached a point from which later movement would have given away its intentions.

2. The incident of the ford over Mill Creek emphasizes the need of engineers, not for extensive road work but for quick repairs of fords or erection of bridges over small obstacles such as are so frequently encountered.

3. This day's combat brought forth the greatest use of shock action seen during the maneuvers. Attacks against marching columns and hasty positions were made by squadrons and by the entire regiment supported by machine guns, mortars, and artillery. The ground favored deployment in front and depth. The Blue infantry's need for mobile antitank protection for its marching columns was forcibly illustrated.

August 9th-12th

Sunday and Monday, August 9th and 10th, the Mechanized Force refitted for the 400-odd-mile march to Michigan. The march was made in two days. No tactical situation was presented.

IV

Allegan Phase

Location and Composition

Upon arrival at the bivouac area, north of Shelbyville, Michigan, August 12th, the command was divided into two camps, the field artillery camping east of Geneva Lake and the remainder of the command east of Selkirk Lake. The camp site at Selkirk Lake was found to be so sandy that the armored cars could not move into place without stalling, and Troop A, 1st Cavalry, moved to the center of Shelbyville and bivouacked on the school grounds and in the school building.

The Headquarters, 53d Cavalry Brigade, and the 106th Cavalry, at Burnips Corners, passed to the control of the Commanding Officer, the Mechanized Force, at 6:00 P.M., August 12th.

The 12th Infantry Brigade, reinforced, in positions north of Dumont Lake, became a part of the Mechanized Force at 6:00 P.M., August 13th. The 3d Battalion, 2d Infantry, in this brigade, was motorized while the remainder of the brigade was not. This necessitated handling the brigade in two parts.

Thus the composition of the Mechanized Force for the Allegan phase was as follows:

Headquarters and Headquarters Troop, 7th Cavalry Brigade (Mechanized).
1st Cavalry (Mechanized).
1st Battalion, 68th Field Artillery (Mechanized), (2 firing batteries).
1st Battalion, 19th Field Artillery (Motorized), (2 firing batteries).
2d Battalion, 3d Field Artillery (2 firing batteries).
Detachment, 12th Observation Squadron.
106th Cavalry.
Headquarters and Headquarters Company, 12th Brigade.
2d Infantry.
6th Infantry (less 1 battalion).
19th Ordnance Company.
Company E, 5th Quartermaster Regiment (less 2 platoons).

August 13th

Under Army control the only units released for action on the 13th were the 106th Cavalry and Troop A, 1st Cavalry. To these two units were given the mission, by the Red high command, of determining the contour of the reported concentration of a Blue corps in the Allegan area.

Troop A, 1st Cavalry, left its bivouac at 4:00 A.M. and by 1:00 P.M. had obtained a clear picture of the enemy situation. The 106th Cavalry assisted in the development of this situation on the northern flank. One platoon of Troop A passed around the south flank of the Blue forces and located the corps installations including a railhead at Pearl and the Corps CP at Fennville. Considerable information was obtained as to the location and types of bridges and as to whether or not they were held by Blue troops. The location of the bivouac of the 14th Cavalry was not found but this force was located as being on the northern flank since several of its scout cars were encountered in that vicinity.

August 14th

The general mission of the Mechanized Force for the 14th of August was to delay the advance of the Blue corps to the east and southeast. To accomplish this the Force Commander decided on the following plan (Figure 7):

The 12th Brigade, reinforced, less 3d Battalion, 2d Infantry, to continue the attack from its positions north of Dumont Lake.
The 106th Cavalry to move west, north of the 12th Brigade, reinforced, attacking any enemy found and delaying their advance.
The 3d Battalion, 2d Infantry, to join the remainder of the Force and the whole to proceed south of the Blue Corps.

Troop A, 1st Cavalry (reconnaissance troop) moved out from Shelbyville at 4:30 A.M., the entire troop being used on the south flank of the Blue force. The advance guard moved out closely behind Troop A. The main body left the bivouacs at Selkirk and Geneva Lakes at 4:35 A.M. The 3d Battalion, 2d Infantry, joined the rear of the column. The route of march selected the previous evening, and found free of enemy troops that morning, was U. S. Highway 131 to Plainwell, County Highway 400 to the west.

No opposition was encountered and at 6:28 A.M. the column halted with its head at the road junction one-fourth mile north of the west end of Eagle Lake. Here the Force Commander detached the following force under the second in command:

Troop F, 1st Cavalry.
2 Platoons, Machine Gun Troop, 1st Cavalry.
Battery A, 68th Field Artillery.
3d Battalion, 2d Infantry.

This command was ordered to move north to County Road 406, west one mile, then north toward the Allegan City Dam, attacking the enemy wherever found and attempting to push its artillery far enough forward to destroy the Allegan City Dam and the bridge (constructed by Engineers) west of Dunningville.

A halt was made at the junction of County Road 400 and the north and south road through Pullman at 7:53 A.M. At the time this halt was made the Force Commander knew:

That one platoon of Troop A had sideslipped a road block on the road to Pullman, and had found an infantry force estimated as a battalion in the vicinity of Bravo, which had not been able to stop this platoon.
A second undefended road block was located one and one-half miles north of Pullman. This road block would be open at 8:00 A.M.
North of Pearl on State Route 89 the only enemy found were truck trains until approaching Fennville, which seemed to be occupied.
A medical regiment and division special troops (33d Division) were located east of Pearl. At 8:00 A.M. the road block was cleared and the Force Commander issued orders for the covering force to move north through Pearl.

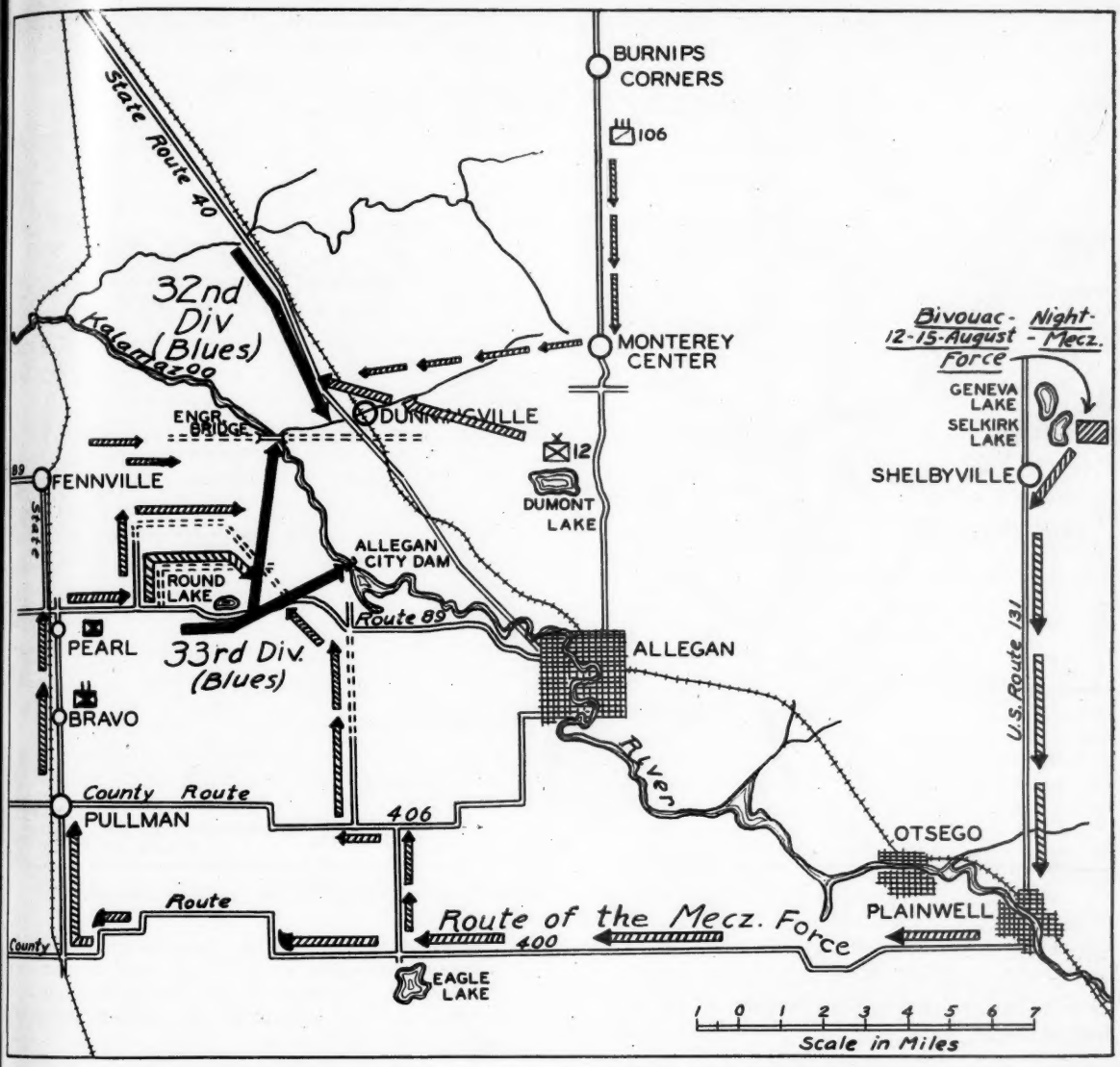


FIGURE 7—*The Mechanized Force moves around south flank to attack hostile flank and rear.*

At 8:25 the head of the main body halted at Bravo. Information was received that the advance guard had encountered an enemy force near Pearl and one platoon of Troop C, and one platoon of Machine Gun Troop, 1st Cavalry, were sent forward to reinforce the advance guard.

By 8:47 A.M. the advance guard had established a march outpost north of Pearl and the main body moved forward to State Road 89, theoretically destroying the railhead and rear installations of the 33d Division, the railroad, etc. Innumerable trucks were met in this area and during the remainder of the morning.

The command turned east on State Road 89 preceded by a part of the reinforced advance guard. A road block had been reported by the reconnaissance troop just east of Round Lake. The Force Commander decided to avoid this road block by moving the command one mile north and detaching a part of the command to move still further north one mile. A halt was made two miles east of Pearl and Troop C, 1st Cavalry, one platoon of Machine Gun Troop, 1st Cavalry, and Battery B, 68th Field Artillery moved out to the north, the machine gun platoon and one platoon of Troop C acting as advance guard.

At this halt the Force Commander decided that one-half mile further east the main body would turn north for one mile. They would then be within range of both the bridges over the Kalamazoo River (the Allegan Dam and the Engineer bridge west of Dunningville). He decided to put his artillery in action and advance to the east in combat formations. Due to unleased land it was not possible to do this and the entire force was held in column on the road. Moving out from the road junction two miles east of Pearl at 9:50 A.M., the main body of the Force, preceded by the advance guard, moved east one-half mile, north one mile, and turned east. With the exception of a few scattered riflemen, no enemy forces

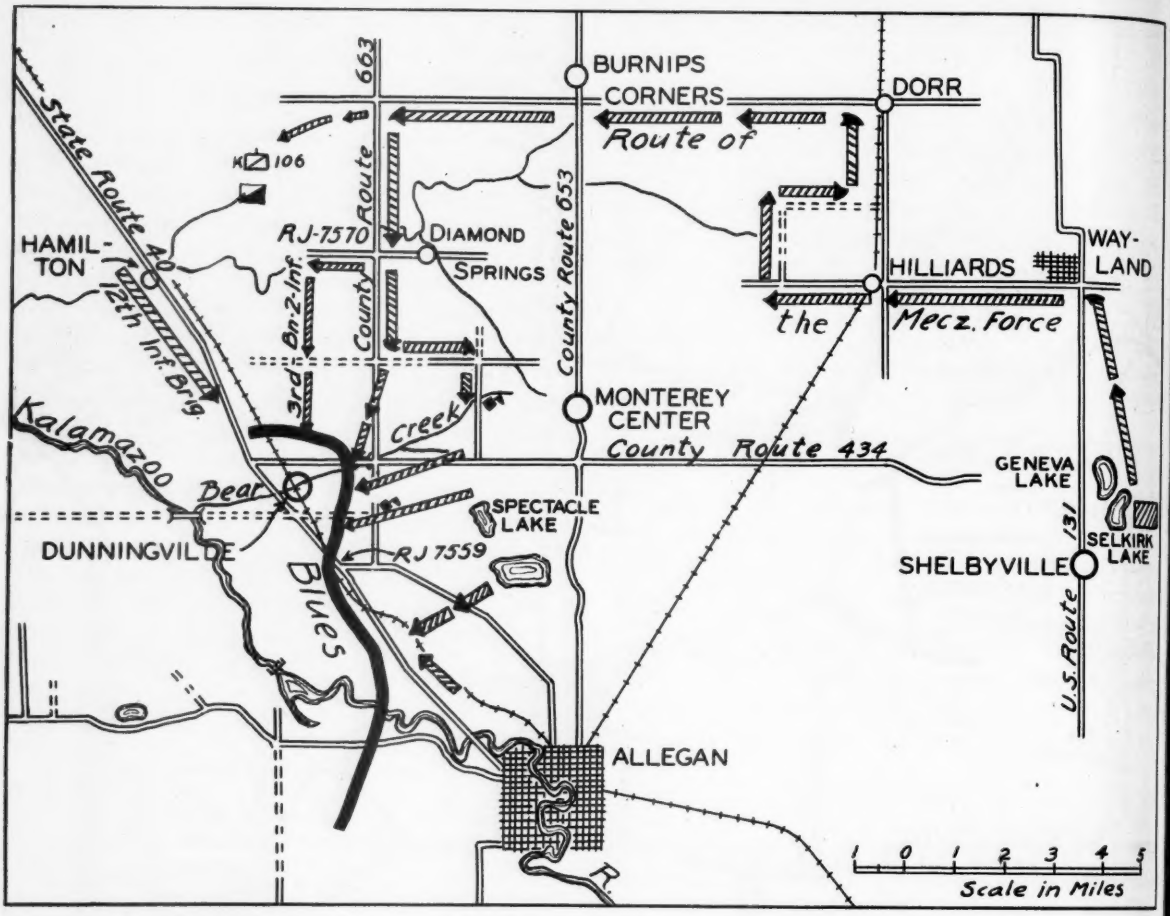


FIGURE 8—*The Mechanized Force moves around north flank to attack hostile north flank and rear installations.*

were encountered until the advance guard reached the end of this road, two miles west of the Allegan City Dam. The advance guard turned south at this point and had proceeded about 200 yards when it received small arms fire from Blue troops hidden on both sides of the road. It was then seen that the enemy had one or two field pieces located for direct fire down the road on which the main body was advancing. (This road was very winding and observation covered only twenty-five or thirty yards.) The advance guard was unable to leave the roadway due to unleased land restrictions. Report was made to the main body.

The main body was halted at 10:21 A.M. At this time the Force Commander had the following definite information:

> The left force had encountered slight opposition to the north and had been delayed temporarily but had just been released to continue east. Its artillery was in position, approximately one mile north of the main body.
>
> Small forces were in front of the main body but no large force as the armored car troop had already sent one platoon through this area. The force at the road junction in the immediate front could be readily outflanked.
>
> The force under the second in command sent to attack from the south had reached a point about one mile southeast of the main body and was engaged.
>
> All of the bridges across the Kalamazoo River were destroyed and no enemy reinforcements could be sent from that direction. No enemy forces were approaching from the direction of Fennville as the reconnaissance troop had patrols in that area.

In view of this information, the Force Commander announced that there was no change in his original plan to continue across country, attack to the east to reach the Kalamazoo River and then to turn and mop up the area. He would, however, displace his artillery forward and if, at this time, he could reach the unleased land to his right front he would do so. The movement was started and, after the artillery had double banked the narrow winding road, the movement was suspended. At 10:56 A.M., the Mechanized Force withdrew to the south. This terminated the operations for the day.

While the mechanized and motorized units had been engaged in the rear of the 33d Blue Division the 12th Infantry Brigade, reinforced, had attacked the advance of the 32d Division and effected a considerable delay.

The 106th Cavalry to the north of the 12th Infantry Brigade did not become seriously engaged on the 14th of August. This regiment, whose mission was to carry on the attack north of the 12th Brigade and to protect the north flank of that brigade from surprise, left its bivouac

two miles south of Burnip's Corners and moved south to Monterey Center before turning west. The termination of the maneuver found the regiment one mile east of the railroad with some mounted patrols and scout cars on the railroad. The only enemy encountered by the 106th Cavalry were scout cars of the 14th Cavalry.

Comments

1. The operations on the 14th gave us an example of containing action by a force composed of elements having different degrees of mobility which determine the locale of operations of each: the infantry frontal delay, horse cavalry close envelopment, and mechanized cavalry wide envelopment.

2. The 33d Division found itself in a situation necessitating defense for rear installations. Note the use of single pieces of artillery by the Blues.

3. The artillery found its first missions of destruction —the Kalamazoo River bridges.

4. The detailed execution of this day's maneuver was marred by terrain restrictions. However the tactical conception is apparent from the sketch. A splendid illustration of the use of mobility and fire power in a decisive direction at the proper time.

August 15th

The mission of the Mechanized Force for August 15th was the same as it had been for the 14th—to delay the movement of the Blue corps east and southeast. The Force Commander decided that on the 15th he would concentrate largely on the 32d Division on the northern flank.

The plan for action of the 15th was as follows (Figure 8):

The 12th Brigade, reinforced (less 3d Battalion, 2d Infantry), would continue the attack of the preceding day.

The 1st Cavalry, 1st Battalion, 68th Field Artillery, 1st Battalion, 19th Field Artillery, and 3d Battalion, 2d Infantry, would move to the north and then west, turning south in the vicinity of Diamond Springs.

The 1st Cavalry and artillery would continue south and attack Dunningville and to the south of Dunningville.

The 3d Battalion, 2d Infantry, would move west on the road through Diamond Springs and then south to seize the railroad and highway northwest of Dunningville.

The 106th Cavalry would send a small force to contain the 14th Cavalry and, with the remainder of the regiment, follow and exploit the 1st Cavalry attack.

The advance guard left the bivouac at Selkirk Lake, at 6:00 A.M., August 15th, followed ten minutes later by the remainder of the main body. The route of march led north on U. S. Highway 131 to Wayland, thence west through Hilliards, one mile west of which place the 3d Battalion, 2d Infantry, joined the column. Two miles west of Hilliards a report was received from the reconnaissance troop that this road at a point one and one-half miles west was in very poor condition. The command moved north one and one-half miles, east two miles and north, on the road through Hilliards to Dorr, then west to County Road 663 where it turned south. At 8:35 A.M. the command reached RJ 7570, one mile west of Diamond Springs. Here the 106th Cavalry was found ready to join the column. The 3d Battalion, 2d Infantry, was turned west with orders to move west one and one-half miles and then turn south. The 4th Platoon of Troop A, 1st Cavalry (armored) was assigned as a covering force for this battalion.

The command halted at RJ 7570 to await information from the advance guard as to whether the crossing of Bear Creek one and one-half miles northeast of Dunningville could be passed. At 8:52 A.M. the advance guard reported they had crossed this bridge and the advance was started. At the end of a little over one-half mile information was received that the advance guard was held up just south of the bridge over Bear Creek by heavy artillery and antitank fire. The artillery—two battalions —was brought forward and put into action one mile south of RJ 7570.

The command moved south at 9:40 A.M. to the crossroads two miles south of RJ 7570 where it turned east. After moving east for two miles on this road, the column turned south and moved one mile to the school house two miles west of Monterey Center. Here the Force Commander issued orders embodying the following:

Troop E to proceed west one mile, south one mile, west one mile to the schoolhouse two miles southeast of Dunningville; from here to attack southwest to the railroad.

A provisional squadron consisting of Troops C and F, 1st Cavalry, to proceed to the road junction one and one-fourth miles west of Spectacle Lake and attack parallel to, and south of, Troop E, 1st Cavalry.

Troop B, 1st Cavalry (in action one and one-half miles east and one-fourth mile north of Dunningville) to attack Dunningville.

Machine Gun Troop, 1st Cavalry, less detachment with Troop B, 1st Cavalry, to support the attack from positions northwest of Spectacle Lake and follow the advance. Detachment with Troop B, 1st Cavalry, to support that troop and follow its attack.

Mortar platoon, 1st Cavalry, from a position northwest of Spectacle Lake to smoke Dunningville and known positions of enemy OP's and antitank guns.

The 106th Cavalry (which had followed the column only to crossroads two miles south and one mile west of Diamond Springs and had then continued south), to attack, from same jump-off area as Troop B, 1st Cavalry, with Dunningville as an objective and to occupy that town.

Artillery, from positions three miles south of RJ 7570 (to which they had displaced as soon as road south from RJ 7570 was clear) to support the attack by fire on enemy antitank weapons, artillery and troop concentrations.

3d Battalion, 2d Infantry, to continue the attack on Dunningville from north and northwest.

12th Infantry Brigade to continue the attack, occupying line of railroad and highway north and south of Dunningville.

This order was given in fragmentary form. The orders to Troop E, 1st Cavalry, were completed at 10:52 A.M. and that troop moved out at 11:02 A.M. The maneuver was terminated at 12:00 noon and in the intervening hour the various elements of the attack had progressed as follows:

Troop E, 1st Cavalry, moved along its prescribed route as far as the road junction one and one-fourth miles west of Spectacle Lake. Here it came under fire from a ridge 600 yards to the west, where a force estimated as two companies of infantry was in position. An attack was launched at once. The attack was announced as successful with a loss of one car. The schoolhouse at crossroads two and one-fourth miles west of Spectacle Lake was also found to be on a north-south ridge, held by another enemy force of similar size which was also attacked successfully. On reaching the railroad, a maneuver obstacle, a sharp turn was made to the southeast and the troop surprised and overran a battery of field artillery in position. After 10 minutes' delay the umpire allowed the troop to proceed to an assembly position about three-fourths of a mile southeast of Dunningville from which it assisted, by fire, the attack of Troop F, 1st Cavalry.

The provisional squadron proceeded to the road junction one and one–fourth miles west of Spectacle Lake. Here Troop C was detached to move south, in order to avoid unleased land, and attack from the southeast. This troop found its way blocked by unleased land and cultivated fields not indicated on the map and was forced north, finally assembling in the vicinity of the schoolhouse two and one-half miles west of Spectacle Lake.

After the detaching of Troop C, Troop F continued west to the road junction where Troop E, 1st Cavalry, had first come under fire. Receiving a scattering fire from the infantry force which had fired on Troop E, Troop F turned south and attacked, successfully, in the direction of RJ 7559; crossed the railroad at that point; moved northwest, assisted by the fire of Troop E; passed west of Dunningville; and assembled north of that town.

Troop B, 1st Cavalry, moved west along County Road 434 and was in position along State Highway 40 at the termination of the exercise.

The Machine Gun Troop, 1st Cavalry followed up the attack as far as the school house one and one-half miles east and one-half mile south of Dunningville where it went into position, covering the assembly position of the regiment.

The Mortar Platoon, 1st Cavalry, followed up the attack and assembled near the Machine Gun Troop.

The 3d Battalion, 2d Infantry, which had been detached from the main column at CR 7570, at 8:45 A.M., moved west one and one-half miles, thence south by the zigzag road to the improved east and west road, west for one-fourth mile on this road and south one mile, Finding State Route 40, one and one-fourth miles west, was not guarded the column moved to this road and turned southeast. About one and one-fourth miles northwest of Dunningville an enemy force was encountered and the battalion detrucked. The plan of attack decided on was to turn the hostile left (west) flank with the infantry while the armored cars proceeded further to the west and south and attacked the artillery. The Blue troops were forced to fall back and, after a 25-minute delay, the Red Force was permitted to advance. By the termination of the maneuver the attack of this battalion had been pushed forward to a line just southeast of the junction of State Highway 40 and County Road 434.

Sufficient time did not elapse after the successful attack of the remaining elements of the Mechanized Force on Dunningville for the 12th Brigade, reinforced, to exploit this success. The termination of the maneuver found this brigade in the area east and southeast of Dunningville.

At the time that the 106th Cavalry left their bivouac, Troop K of that regiment was detached with orders to locate and contain the 14th Cavalry (Blue) known to be on the north flank. This troop proceeded in the direction of Hamilton and encountered the Blue cavalry northeast of that town and engaged them for the entire period of the maneuver.

Comments

1. This day's operations clearly point out the influence of terrain on mechanized operations. Whereas on the previous day the "back door" to the rear area was wide open, on this day Bear Creek west of Dunningville effectively barred the way to the rear of the Blue position. This same stream farther to the northeast influenced the Force Commander to direct his attack against the front of the enemy position, utilizing his horse cavalry against the near flank.

2. The preceding narrative indicates the frequency of situations demanding the issue of orders in fragmentary form. It illustrates as well that objectives must be clearly stated but hostile forces can seldom be accurately described. Subordinates must usually be given mission orders.

August 16th-22d

The 7th Cavalry Brigade (Mechanized) gave a demonstration at Camp Custer on August 20th, beginning its march home that afternoon and arriving at Fort Knox August 22d.

V

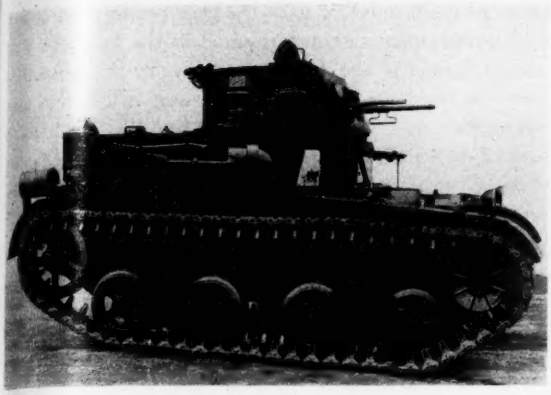
General Comments

Participation By Organization

The maneuvers constituted a service test of the present organization of the Mechanized Cavalry Brigade, and would seem to indicate the general suitability and elasticity of this organization and the weapons assigned thereto.

Mechanized Cavalry

The present organization of the 1st Cavalry (mechanized) is the result of an experimentation in which tactics, matériel, and possible missions have been the controlling factors. Formerly there was some thought that the combat troops of the regiment should be organized to provide within each troop all of the necessary combat elements; i.e., reconnaissance, machine gun fire support, and striking power, etc. The advantages and disadvantages of such an organization are readily apparent. However, from the



COMBAT CAR, M1
Used by the Mechanized Force in the Second Army Maneuvers.

viewpoint of training and responsibility for and operation of combat equipment, the present organization has been considered preferable. The Second Army Maneuvers, which constituted the best peacetime test of these organization problems, confirmed the belief that the present organization is built along sound lines. On almost every occasion in which the regiment was employed in combat, machine guns and mortars, and sometimes reconnaissance elements, were attached to the combat car, troops or squadrons with ease and dispatch. In no case was any difficulty experienced by the commander in building up a combat team on the spot to fit the occasion, simply because these elements came from separate organizations instead of all from one troop.

Need for Rifle Troop

However, one deficiency was noted. During various phases of the maneuver there was a definite need for a rifle organization to protect the flanks and rear from the sorties of hostile cavalry; to afford close-in protection to artillery in position; to provide riflemen for dismounted patrolling and outpost duty; in short, to perform the many duties of combat best performed by riflemen. Of course, in this modern age, these riflemen should be armed with some type of a semi-automatic rifle. The inclusion of a rifle troop in the organization of the mechanized cavalry regiment has been the subject of study by the 1st Cavalry (Mechanized) for a year or more. If made available it could be used to advantage in some instances along with the Machine Gun Troop as one of the troops of a fire support squadron.

Horse Cavalry

The employment of horse cavalry as a part of the Mechanized Force was given a less extensive trial than was the employment of the motorized infantry. This was due to two factors: In the Fort Knox phase all of the horse cavalry was on the Blue side. In the Allegan phase the 106th Cavalry, which was a component part of the Mechanized Force, was operating together as a regiment for the first time.

The actual employment of horse cavalry with the Mechanized Force took the following form:

(1) Reconnaissance in force against the heads of the main body of the advancing column. (Allegan Phase: Friday morning, August 14th, on the north flank of the Blue 32d Division, which was marching southeast in the vicinity of Hamilton.)

(2) Supported by mechanized reconnaissance, participating as one of the assaulting elements in a coördinated attack. (Allegan Phase: Saturday morning, August 15th, in the vicinity of Dunningville on the north flank of the Blue VI Corps.)

Although the employment of the horse cavalry with the Mechanized Force was limited as indicated above, it was apparent to all concerned that horse cavalry could have been of great assistance to mechanized cavalry in both phases. Had the Blue V and VI Corps been provided with a large force of horse cavalry equipped with antitank weapons and scout cars in these operations involving close contact, it would have been essential to the success of the mechanized operations for the Red Force to have had its own horse cavalry in the theater. The 106th Cavalry must be given credit for its excellent and valuable work.

Artillery

The artillery of the Mechanized Force was employed almost constantly throughout all operations. Frequently there was some shaking of heads over the question of its observation. At the outset of each operation all elements of the command automatically took up the question of artillery observation. During the maneuvers the reconnaissance troop, with which there was an artillery agent, furnished more than its share of desirable observation locations. With the Force Commander's Group, and with all the larger subdivisions of the Force, there were artillery agents seeking observation points. And, of course, the artillery battalion had its reconnaissance groups immediately with it. The Air Corps assisted in this mission. But what is here most important of all is the fact that there was no hesitation to detach strong forces to fight for artillery observation if necessary. As a result, it was possible to put all sixteen guns promptly into action at all critical times with well directed fire at defined objectives. (Example: Dunningville—Snow Mountain.)

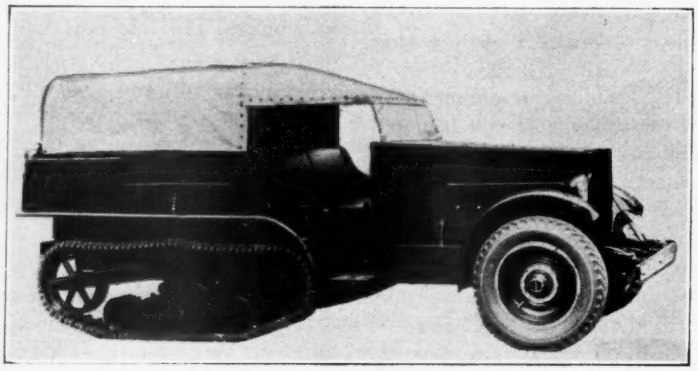
The inclusion of the two firing batteries of the 19th Field Artillery (Motorized) as a part of the Mechanized Force was more than justified.

Motorized Infantry

The inclusion of motorized infantry in both phases of the maneuvers permitted the experimental employment of motorized infantry in conformance with definite ideas which have been in the process of development at Fort Knox during the past two years. As a result, the maneuvers afforded an opportunity for a practical test of existing opinion with reference to the employment of this type of infantry with the mechanized cavalry brigade, the theoretical test of which opinions had been made in the map problems, tactical exercises, and classroom work

during the past two training seasons. This type of motorized infantry was most useful. It was able to keep fairly well closed up on the mechanized elements and would have had greater mobility with four-wheel-drive truck equipment instead of two.

From the experience gained in the Second Army Maneuvers an inescapable conclusion is drawn that infantry in modern, four-wheel-driven trucks is very useful in any numbers when the particular mission permits of their being brought into the fight; first, with no necessity of providing the truck column with special protection on the march, or on its movement into position; and second, where the attachment of the truck column does not interfere with the tactical mobility of the mechanized elements.



Car, half track, T1E1. (Personnel Carrier.)

Aviation

The Mechanized Force started the Fort Knox phase of the maneuvers with a flight of three observation airplanes from the 113th Observation Squadron, Indiana National Guard. Although the operations of the Mechanized Force in the Fort Knox Maneuvers required missions of observation aviation lasting from daylight until 4:00 P.M. These missions were satisfactorily performed by these three ships. Later three ships of the 12th Observation Squadron arrived in the Fort Knox theatre for assignment to the Mechanized Force and accompanied the Force to the Allegan area where they performed the aerial observation missions for the Force.

Attack aviation was employed by the Mechanized Force during the Fort Knox phase on missions in conformance with prearranged plans made in conference with representatives of GHQ Air Force. These missions proved to be somewhat difficult of coördination insofar as the time element was concerned due to the distance of the airdrome from the Mechanized Force command post and to the somewhat faulty communication between these two installations.

Smoke

Great effort has been made in the mechanized cavalry brigade to develop a neutralizing agency for use as a defense against hostile antitank weapons. Next to hostile mechanization, the greatest menace to the successful operations of mechanized forces is thought to be the hostile antitank weapons. If smoke placed on the area in which hostile antitank weapons are located can interfere with the well-aimed fire of the hostile antitank gunners, the advance of the mechanized assault echelons will be facilitated. This urgent need of a smoke concentration on that part of the objective from which hostile antitank guns can most interfere with the accomplishment of the mechanized operations, has resulted in the inclusion of a mortar platoon in the mechanized cavalry regiment. Because the need for smoke concentration is constant and immediate, from a mechanized point of view, these mortars must be in the regiment rather than in brigade or division where they could not possibly be made as quickly available for every normal mission given the mechanized regiment. In no instance during the operations at Fort Knox and Camp Custer was a major attack launched without first blinding enemy antitank guns with smoke screens simulated by the mortars. Although the effect of the smoke screens was not always easily visualized and evaluated, it is believed that they were a material factor in each operation.

National Guard

In each phase of the maneuver a National Guard organization operated as a part of the Mechanized Force.

At Fort Knox the 201st Infantry (less one battalion), West Virginia National Guard, arrived on the military reservation four days before the exercises started and in that short interval of time was given basic training contemplated to convert it into motorized infantry, which rôle it played in an entirely satisfactory manner once the maneuvers started.

In the Michigan phase the 106th Cavalry, assembled for training as a regiment for the first time, executed the various missions assigned it as the only horse cavalry with the Mechanized Force, starting one week after its arrival in the area.

The satisfactory functioning of these two national guard organizations in the maneuvers as component parts of this specialized force would tend to justify the mission contemplated for this important component of the military establishment in our scheme of national defense, i.e., the National Guard to be prepared for early and effective reinforcement of the Regular Army following a brief and intensive period of training after M-day.

Night Marching

Except on two days, the Mechanized Force began its march to the position from which it was to attack early in the morning and long before daylight. On account of the surprise element so desirable in mechanized operations and due to the wide moves to the hostile flanks or rear, which will be the rule rather than the exception, it is believed that these maneuvers proved the correctness of marching at night. In order to deliver an attack with the greatest effectiveness it is thought that mechanized

forces normally should be in position ready to attack before daylight.

Physical Exertion

The maneuvers proved conclusively that the operation of mechanized cavalry in the field makes great physical demands on all personnel, commissioned and enlisted. The vibration, noise, lack of comfort, restricted vision, long hours of driving on roads and off, during daylight and darkness, and constant strain due to the need of being strictly alert whether car commander, driver, gunner, or radio operator, all contributed to a condition of fatigue which must be anticipated and allowed for in any protracted and intensive operation. This fatigue was bound to be even more pronounced in the maintenance echelons which were required to work all night as well as throughout the day.

Receipt and Transmission of Messages

Experience of the past two years has evolved a certain satisfactory system of receiving and transmitting messages in the mechanized cavalry brigade. Inasmuch as the majority of messages are sent from moving command cars, in each of which are the commander and radio operator, the most practical system provides for the filing of the radio messages received and sent through each command car by the radio operator assigned to that particular car. Each radio operator in a command car keeps a log of all messages sent and received. This, together with the messages delivered to the commander in that particular car by means of staff officers, motorcycle messengers, etc., constitutes a satisfactory record of the operations directed by that commander. It is believed that this procedure will obtain in the operations of the mechanized cavalry brigade in the future, since an adherence to regulations with reference to prescribed message center procedure would interfere considerably with the tactical operations of the mechanized command.

Use of Radio, and Motorcycle Messengers

The use of radio throughout the Mechanized Force was more successful than had been anticipated. At no time did any radio failure interfere to any great extent with the tactical operations of the Force. However, the successful use of radio did not prevent an extensive employment of motorcycle messengers as a supplementary means of communication. The essential value of motorcycle messengers in the mechanized cavalry brigade more than justified the confidence that has been placed in them as a result of experiences during the past year or two. In the future no system of communication should be planned for mechanical units that does not accord full consideration to the use of motorcycle messengers in tactical operations. Although the radio is ordinarily the faster means of communication, the motorcycle messenger is still the more dependable, and as such must be relied upon to a great extent when and if radio communications fail.

Antitank Weapons

From the mechanized viewpoint one thing in the counter-mechanization action stood out above all others. That was a greater need for antitank weapons at critical points. Next to hostile mechanization the antitank weapons are by far the greatest menace to mechanization. If properly employed they should be interposed in proper numbers between the armored vehicles and other troops.

Vehicular Equipment

The strongest confirmation of the soundness of the methods as well as the proof of the durability, mobility, and capacity of the vehicles can be found in the statement of the simple fact that in eighteen days including the Fort Knox phase, the Mechanized Force marched more than 1,500 miles over all kinds of roads and terrain, and during variable weather; and engaged the enemy in major operations twelve times.

Maintenance

The composition of the Force included Quartermaster and Ordnance maintenance units which supplemented troop, battalion, and regimental maintenance in an entirely satisfactory way, oftentimes working all night to get vehicles ready for the next day's operations.

Supply

The problem of supplying the Mechanized Force during both phases of the maneuvers and in the march from Fort Knox to the Allegan area and return presented no particular difficulties. At no time was there any shortage or delay in rations, fuel, or supplies of any other kind.

Umpiring

One of the factors deserving of careful consideration in future maneuvers is the system of umpiring, particularly as applied to mechanized forces. It is apparent that great care and study were given the matter of umpiring prior to both the Fort Knox and Allegan phases. Umpires were assembled for instructions by the chief umpires before the maneuvers began. In both areas they conducted a vigorous reconnaissance beforehand. Insofar as their organization, assignment, and preliminary training were concerned it is believed that nothing was left undone. In an endeavor to permit all umpires to acquaint themselves with the capabilities and limitations of the mechanized cavalry brigade and at the request of the chief umpire, several demonstrations were given at Fort Knox.

VI

CONCLUSIONS

Degree to Which Objectives Were Attained

It is believed that in both the Fort Knox and Allegan phases of the Second Army Maneuvers the Mechanized Force fully attained all of its major objectives.

A detailed and careful study of the tactical operations will reveal the correctness of this statement.

In war failure to attain objectives is normally due to enemy superiority, difficulties of terrain, or a breakdown

of personnel or material. In these maneuvers the Mechanized Force had not only to overcome these natural interferences with its missions but also it lost from one-third to one-half of the allowed maneuver time of each day's operations through artificial but necessary interferences—umpire conferences, roads congested with observers, numerous and extensive parcels of unleased land, etc. This loss of time is relatively far less serious to slow moving troops than it is to mechanized troops, for time is the very essence of the mechanized operation. The mechanized operations were also hampered by the maneuver necessity of starting and stopping the exercises at hours inconsistent with actual war conditions. Yet the Mechanized Force attained all major objectives despite these interferences and attained them within the time limit which it set for itself.

The attainment of all major objectives by the Mechanized Force within these time limits which were purposely made narrow to preserve the advantage of its speed of maneuver, is the outstanding accomplishment of the entire operations. It should be given the most serious consideration in seeking the answer to the many questions which have been raised, and it should certainly be the controlling factor in drawing conclusions as to the present equipment and methods of the Mechanized Force; and as to ways and means to combat mechanization.

Value of Maneuvers

The Second Army Maneuvers of 1936 provided the Mechanized Force with an opportunity of assisting in keeping all components of the Army abreast of the modern elements in doctrines, weapons, and technique. The participation of the Mechanized Force in the Second Army Maneuvers marks an epoch in the history of the United States Army. For the first time this newest combat element appeared on an American maneuver ground opposed by all other arms of the service employed tactically in large numbers. Unquestionably the maneuver will prove of considerable benefit to the future development of mechanized equipment and tactics.

During the eighteen days of the maneuver the Mechanized Force marched more than 1,500 miles over all kinds of roads and terrain, and during variable weather. It engaged the "enemy" in major operations twelve times. Its mobility is proven. Its fire power is acknowledged. Its proper employment is a matter for serious study and contemplation.

In an emergency the United States cannot fail to utilize the tremendously advantageous position it now occupies in the automotive world. The national defense demands this. Therefore, mechanization in the military establishment is here to stay.

There were many factors which contributed to the interest and benefit of the maneuvers. Some of these were:

The size of the theatre of operations.

Variety of terrain.

Number and composition of the troops involved.

The wide range of the tactical problems which presented themselves for solution.

It is probable that the Second Army Maneuvers provided the greatest number of troops with the maximum amount and most interesting type of training they have received in any one month since the World War.

Maneuvers a Test

From the point of view of the Mechanized Force, it was anticipated that the maneuvers would serve as a means of testing the powers and limitations of mechanization. It was felt that the maneuvers would disclose any inherent weaknesses, if such existed, in equipment, tactical employment, organization, and supply. For the mechanized cavalry brigade and its attached organizations the maneuvers did present an opportunity for finding the answer to a great number of questions regarding equipment and methods. The equipment tests, which were an intensive projection of previous training tests, have in large part proved the sturdiness, durability, and capacity in speed and fighting power of combat vehicles of all types. To be sure some mechanical deficiencies have been unearthed, but none of these is of a nature which cannot be corrected.

Tactics

With respect to tactical methods employed by mechanization in a war of movement, which in each case must include a careful coördination of the application of power of a considerable number of varying types of combat agencies, the maneuvers went a long way toward confirming the belief that these methods have been established on a sound basis.

Primarily, the tactical endeavor in the Mechanized Force was to place its diversified fighting power in a position which offered a choice of a varied course of action against the enemy, and which at the same time afforded a ready means of displacement from that position to another one offering the same opportunity for different courses of action. This principle applies to the mechanized cavalry brigade as a whole or to parts of any size or composition operating for the time being on detached or supporting missions.

The fact that on each day's operation in both phases the mechanized cavalry brigade and attached units were actually able to place themselves in positions such as described (as many as three times in one day despite a serious artificial loss of maneuver time), confirms the belief that this is one of the most important principles of mechanized operations.

Another matter involved was that the fight of the combat cars was not by assault alone. On the contrary the greater part of the time combat cars were fighting with fire, as it was more frequently necessary or desirable to place them in position from which they could fire on hostile forces than in a place from which they were confined to the assault or charge alone. The fact that it was possible to place the combat vehicles in positions in which they could employ the kind of fighting desired confirms the soundness of the principle to govern how the combat cars are to fight.

A Tribute to the Mechanized from an Old-Timer

By Colonel Thomas L. Sherburne, Cavalry

It was my privilege, last year at Fort Knox, Kentucky, and this year at both Fort Knox and Allegan, Michigan to serve as umpire with The Mechanized Force.

It is not my desire to discuss here the powers and limitations of this force, nor to attempt to predict its combat efficiency, since the operations of The Mechanized Force during the Second Army Maneuvers will be reported in another part of The Cavalry Journal, giving its tactical problems in detail. I shall give to the old-time Cavalryman some of the problems faced by our officers and men now with this newest member of the army combat team.

The "Horse Cavalryman" (now an accepted term, though as little descriptive as the term "a male man"), is constantly being placed in a false light by non-military people. A discussion of the mechanized cavalry is usually begun by a civilian with the statement that he sees the mechanized cavalry is now replacing horse cavalry in the army. Such a remark brings a prompt remonstrance from the cavalryman, and no matter what the nature of his subsequent opinions, he is invariably put down as an opponent of mechanization. Yet, no one who served with the mechanized forces during the recent Second Army Maneuvers could come away without an unbounded respect and admiration for the accomplishments of that splendid old organization, the 1st Cavalry.

There never was a harder-working unit in peace-time than this mechanized force. Every man is a specialist, and to accomplish this result requires training—and more training!

Sitting in the command car of the unit (the commander seldom enjoys this privilege, by the way; he rides on the running-board). You see fifteen or twenty motorcycles. These are necessary as messengers in case of a breakdown of radio, for use in conjunction with radio, and for other services. Sometimes these motorcyclists strike mud or deep sand; when this occurs, the legs and feet of the riders are never idle; skillfully pushing and twisting, they work for every yard they advance. When difficulties are too great, they help one another, often with the assistance of the colonel and his staff; then quickly resume their advance formation. Only the most skillful riders would be able to keep up with a column under all conditions. This skill comes from long hours of training in the motorcycle school back at Fort Knox.

The nine- or ten-mile column, with its supply train, and detached units 20 or 30 miles away, must be kept in constant communication. Motorcycles can accomplish this, but sometimes they are necessarily slow. *Radio* is the usual means of communication, and how well this works in the mechanized force was a source of wonder and admiration to me. As the command car moves along, it receives reports from all parts of the column, and from detached units. Orders are given as easily as they would be transmitted over an efficient telephone system. Sometimes the radio goes out, but never for a great length of time.

In rough country, the command car is jolted violently; so violently as, on one occasion, to break the steel base of the machine gun mount, on top, and let the gun crack down on the head of an unsuspecting umpire sitting beneath; under such conditions, it is a wonder that the radio ever works, but it does. Long hours in the radio school, trials on the road under all conditions, make possible this efficiency.

A convoy of automotive vehicles numbering a hundred or more, traveling at usual speeds along fine roads, would ordinarily develop some mechanical difficulties. Picture the difficulties that would beset a column of 10,000-pound vehicles, traveling at unheard-of rates across very rough country. We all remember in the old days, after a long march over bad roads, the anxiety of the troop commander over the delay of his wagon train. Sometimes the wait was in vain; the wagon train did not arrive. The mechanized commander always has this worry.

To keep the column moving as a unit, every man in charge of a vehicle must know it from stem to stern, its powers and limitations, and how to make ordinary repairs. For such training, the school for mechanics goes on at Fort Knox, continually.

With over 500 automatic weapons in its armament, a school for instruction in these weapons is also in continuous operation at Fort Knox. Practically every man is a machine gunner.

One is impressed, too, by the dexterity of the drivers of these machines, their almost uncanny judgment as to the passability of the terrain before them. This ability comes from constant schooling of drivers at Fort Knox. I have seen units of the regiment find trouble in negotiating certain terrain; and later, I have seen parts of these units return to again attempt, and finally master, the situation.

Often, in a highly specialized command, there is a tendency to neglect certain basic soldier training. I have heard officers of another arm of the service say that their men did not have the time to worry with soldier training. Not so with the 1st Cavalry. They may not all be "Specialists," as is claimed, but they are certainly all trained as soldiers; and how well that training had been given was shown in these Second Army Maneuvers. Drivers in insufferably-hot tanks, hour after hour, drove their machines without relief or sleep; motorcycle men, radio operators, and others, after twelve hours of most strenuous work, were ready and willing to take on duties that gave no promise of either rest or sleep; mechanics, with a full day behind them, labored all night to have their machines ready for the next day's work. All of them were bruised and sometimes bloody from the beatings

that anyone receives who rides even a short time in a combat car; yet, they were always ready for one more attack.

To these men, with military and specialists' ratings equal to about half what would be given them in other branches of our armed forces, loyalty to the colonel, and to the regiment, was almost a religion.

We saw this command, day after day, encounter all kinds of terrain, and successfully place itself in position every time, its high mobility demonstrated to the utmost. Under most disagreeable weather conditions, hot and dusty, we saw it make long marches with speed and few interruptions. We know that their preparation for battle, as far as can be seen, is complete.

A distinguished general at the maneuvers at Allegan, after listening to my enthusiastic praise of the mechanized forces, said, "I expect now that you will transfer to this unit."

No. I am still a horse cavalryman. Aside from sentiment, I fear losses to the personnel during wartime. Then, the higher officers of this outfit will all be promoted, its best noncommissioned officers and specialists will be commissioned, and with them will go a large part of its efficiency. The infantry, cavalry, and artillery expect this loss of old members. No regiment in France went into battle with more than ten per cent of its old personnel. The horse cavalryman, with this small nucleus of old-timers, knows that in a comparatively short time, he can build an efficient new regiment.

As a hidebound old-timer, I feel, too, that the horse is still the most mobile thing on the battlefield for short distances; that, with better selection of animals, better march training, and the motorization of his trains, the daily march of cavalry has been doubled; and above all, the cavalry has greater fire power, proportionally, than infantry, and that the trooper is the only soldier who can efficiently handle his weapons while moving at top speed.

And so, I will not want to transfer to the mechanized cavalry. But as an old horse soldier, I want to offer my tribute to the 1st Cavalry.

The cavalry lost no soldiers when its oldest regiment was mechanized, for the 1st is still a regiment of the very finest, an honor to the cavalry service.

This mechanized force may or may not prove to be a most effective weapon upon the battlefield; but, *if the 1st Cavalry is not effective, then mechanization is a failure.*

To AWAKEN *in the mind of the soldier a live interest in his education and training, and to stir into action the higher instincts of his nature, should be the aim of every officer who aspires to become a real leader of men.*—PERSHING.

Hunter Trials

By Lieutenant Colonel Wilfrid M. Blunt, *Cavalry*

Origin

WITH the exception of polo, which is a game rather than a sport, hunting, cross country racing and horse showing have been, until quite recently, the principal mounted sports in this country. Of these, hunting is by far the most popular from the participants' point of view, though the difficulties of territory, expense, and suitable climate all tend to restrict this sport. Not being essentially competitive, hunting offers nothing to the spectator, with the exception of a few enthusiasts, who come to the meets. Racing and showing, on the other hand, are attractive to spectators but being highly competitive, they have, in keeping with our national tendency, become highly specialized. As so clearly stated in a recent article by that eminent gentleman jockey, Holmes Alexander, cross country racing is now confined to a special group of gentleman riders and horses hunted only enough to qualify them. Horse showing is in much the same position, due to the development of a number of "show stables," whose owners are reluctant to risk banging up their horses over solid fences.

Consequently, after the close of the hunting season, the real amateur found no opportunity to have any fun with his working hunter until the evolution of the hunter trials. These events, as the name implies, are tests of a hunter; and are essentially practical, generally requiring horses to cover from one to two miles over natural country, with reasonable jumps, within a fixed time. They thus provide a means of demonstrating, in useful proportion, the speed, manners and jumping ability of the horses entered. Contests for amateur riders have been in vogue abroad for many years, a number of them now being International Competitions held annually.

While the conditions of hunter trials will vary somewhat in each locality where held, the purposes are the same, namely, to provide a reasonable sporting event for amateur riders.

Course

The course should be of sufficient length to demonstrate the horse's ability to get his rider up with hounds after they have gone away and be ready and fit to go. A course somewhere between a mile and a half and two miles provides a fair test. The course should be, as far as possible, over natural country, and a rolling one is, of course, more sporting than a flat one.

The time will vary somewhat with the nature of the course, the number of obstacles, etc., but should be such as to require an average pace of about 16 miles an hour. The time limit can best be determined by sending two or three horses over the course and adding to the average time of those who have gotten around without difficulty, a small margin of safety.

The obstacles should be of reasonable size and compare with those commonly met while hunting, such as post and rail, chicken coop, plank fence, stone wall and snake fence. If there is a natural ditch or bit of swampy ground in the course, so much the better. The part included between the flags should be five or six panels wide, excepting of course the coops and, needless to say, all should be without wings. A requirement that competitors open and shut a gate or drop a rail off one fence before taking it provides an excellent test of manners.

Conditions

Drafting suitable conditions for hunter trials is as productive of gray hairs as almost anything imaginable. While in some localities one class will answer, in most hunting sections some division into classes will be found necessary on account of the number of contestants. The division into classes is one of the major problems of any committee, and one worth careful consideration. If it is to be strictly a family affair, the division may be indicated by the horses available; thoroughbreds in one class; halfbreds in another, with an appropriate difference in the time; or the age of the horses or number of seasons hunted may be the basis for this division. In the majority of cases, however, there will be quite a number of possible contestants who are not members of the organization or locality staging the trials. In this event, by making the division of classes along the line of membership, one or more classes can be restricted to members of the sponsoring organization.

In this event, dividing classes according to the membership status of the potential contestants will probably be the most satisfactory. For example, a class for members of the hunt or club staging the trials, a class for members of other recognized hunts and possibly a class subject only to the restrictions that the riders be amateurs. This will provide both local competition and sport for our friends and neighbors.

It seems needless to say that in order to have a real sporting event, all competitors should be amateurs and ride their own horses. While this may restrict the number of entries somewhat, it will greatly increase the interest.

Judges

No matter how well staged otherwise, from the point of view of spectators as well as competitors, the success of any sporting event depends on the judging. Consequently, this subject merits some consideration.

In the usual show ring one judge from the center of the ring, if he be competent, can usually determine quite accurately the relative merits of the horses exhibited. However, with a long course, parts of it probably would not be visible from a central point, and if they were, one

judge would be at a great disadvantage with several horses on the course at the same time, as must be the case to prevent the trials dragging.

On the other hand, the old proverb of too many cooks spoiling the broth is equally applicable to any sporting event, where too many judges can never agree. So instead of having several judges there should be one judge with several assistants, each charged with scoring a particular phase of the trials. In this way all entries will be judged by the same standard and it only remains to assign to the assistant judges the phases they are most competent to judge.

Scoring

On account of the number of factors to be considered and the difference in the relative importance of each, together with the time it takes to run off a large class, reducing scores to numerical values, much as most judges dislike it, provides the fairest and most accurate method of scoring.

In most horse shows conformation is, as a rule, judged after performance for several reasons, most of which trace back to the necessity of adhering strictly to a time table. Hunter trials in this respect might well follow the racing procedure of assembling entries for each class in the paddock beforehand and grading them on conformation. This not only disposes of this controversial subject in the most impartial manner, but will also permit a quicker announcement of results after the last horse has gone around.

Since "handsome is as handsome does," conformation need count but very little in a hunter trial where we expect to see the finished article, rather than green prospects. Looking at this question the other way around, a horse must have reasonably good conformation in order to give the rider a fast, safe and pleasant ride. In considering the foregoing, a value of 10 points allotted to conformation appears adequate.

Assuming for the moment that this question is settled, let us look into the scoring of performance. As scoring on time would result in contestants making their rounds a race against time, a reasonable maximum time seems preferable, with the understanding that exceeding the time limit eliminates the contestant. This is entirely fair, since, when hunting, neither the fox nor hounds are going to wait; and he who does not get up in a reasonable time, will miss the run anyway. While the time lost on refusals could be made up in hunter trials, there is a more serious matter when hunting, where courtesy requires the rider whose horse has refused to give precedence to any others near by. Two refusals will usually put one at the back of the field when hunting and should disqualify a horse in hunter trials.

Although no one is apt to enter a horse that is not fairly fit, condition at the finish directly affects the horse's ability to go on. With a view of discouraging a racing pace and to obviate a hopelessly blown horse being placed, this factor might well be allotted a weight of 10 points.

The remaining factors to be judged are pace, manners and jumping. While the weight allotted condition tends to hold down the pace, the time fixed for the completion of the course will determine the minimum pace. Between these two is the "good hunting pace," which will differ with various horses, according to their galloping abilities. What one horse can do comfortably will distress another. Manners are demonstrated in the ease with which the horse can be rated, turned and stopped, as for opening a gate, etc., and will frequently vary in the same horse according to the pace at which he is going. Accordingly it seems logical to group these two factors together, assigning them a suitable value of from ten to twenty points.

The remaining credits of 60 to 70 points should be allotted to jumping, each jump five or six points, scored in the following manner: If a horse is sticky, gets in too close or stands back so far as to make his jump chancy, he should be cut a point or two. Ordinarily ticks should not be counted but the horse that hits a fence hard or breaks a rail should be cut proportionately. If, on the other hand, he approaches nicely, makes a perfect jump and lands going on, he should be credited with the full value for the jump.

The following diagram shows a typical consolidated score sheet for the values given above.

CLASS

Entries	1	2	3	4	5	6	Etc.
Time ( )							
Conformation (10)							
Manners and Pace (20)							
Condition (10)							
Jumping (60)							
Judge A (10)							
Judge B (20)							
Judge C (15)							
Judge D (15)							
Total							

Recording

To permit the judge and his assistants to devote their entire attention to the competitors, it is desirable to have one official with no other duties than to keep the consolidated score sheet.

Assuming the principal judge takes conformation; after arranging the horses in the order of his preference, all should be assigned a numerical value from 10 to 0, which is turned over to the recorder for entry on the consolidated score sheet.

A starter and timekeeper, as his title indicates, is required to start each competitor and note the time taken to complete the course, which is given the recorder.

Grading the entries on pace and manners is a job in itself, especially when there are several horses on the course at the same time, and one that should be done by the principal judge. The ratings will obviously have to be on a comparative basis as Very Good, Excellent, Good, etc., until all have been around when they can be translated into numerical values. The same is true as regards scoring condition at the finish, though this job is much simpler.

Generally several assistant judges will be required, depending on the number and location of the jumps. Each scores the jumps assigned to him and as soon as the last horse has passed sends in his score sheet.

Almost any form of jumping score card should answer for this purpose though much time will be saved the recorder if each jump judge totals the scores of each entry over his particular jumps.

While it is not claimed that this plan is not subject to improvement, it is offered on the theory that a poor plan well executed, is better than no plan at all, and on the conviction that hunter trials, as an amateur sport, have come to stay.

A Command Car for a Cavalry Regiment

By Captains John H. Stodter and Rufus L. Land, 4th Cavalry

THE training season of 1936 saw the thorough testing and unqualified triumph of the reconnaissance car as the command vehicle of the 4th Cavalry stationed at Fort Meade, South Dakota. The vehicle, transporting all the necessary elements of a moving command post, and with improvised radio equipment, moved by bounds at the head of the column on the march, and parked at the selected command posts during halts and in combat. The commander and his staff rode as usual at the head of the column, now with the security of continuous radio communication and rapid contact with all elements of his command.

While the development of the command car was necessitated by the absence of one scout car section from the 4th Cavalry platoon, the availability of the complete platoon will not in any way diminish the desirability and usefulness of the command car hereinafter described, as it serves to free the scout cars for other missions. The developed command car functioned as a complete regimental message center, and as such it warrants description:

Crew: 1 driver, assistant radio operator,
1 operator, radio,
1 clerk, message center chief,
1 operator, panels (assistant to the message center chief),
1 additional passenger when and if needed.

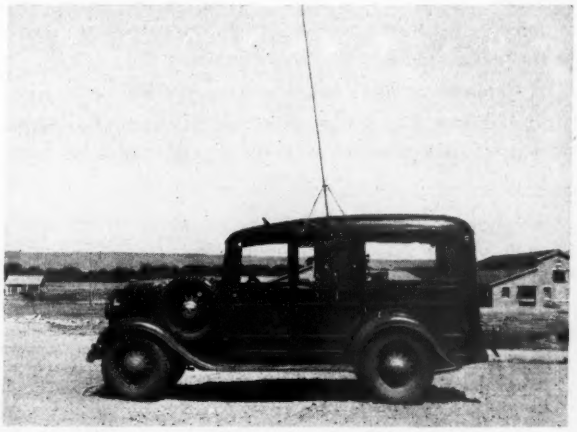
A reconnaissance party of not to exceed three persons displaced the message center and panel personnel when desired.

Agencies: Message center, including all the necessary maps and stationary desired for the operation in question, command post signs, and directional arrows; panels, codes, and pick-up equipment for communication with airplanes; and the field equipment of the persons concerned.

Radio station, net control station for the communications of the regiment,

Equipment in detail:

Radio equipment: Including the Cavalry type Radio Set SCR-163-A (*radio [SCR 163A]*), antenna equipment, Mast Base and Mast Sections MS-49, 50, 51, 52, and 53; power equipment consisting of the Dynamotor Unit DM-1 (procured from the Signal Corps), or the Power Equipment PE-6 (*issued hand generator [PE-46]*) and extra twelve-volt battery; the adaptor and



A reconnaissance car as a command vehicle.

antenna bracket from the side of the set box of the 163A radio set (part BC 157A); and a few items procurable locally at low cost, as described below in the description of installation. The radio set is hung on an iron strap bolted across the uprights of the left rear door, the height of the cross-arm and the fastening of the set to it being adjusted for most comfortable operation from the center seat. Leather straps from the set box to rings set in the floor (see photograph) and rubber cushions wherever the

set touched the frames of the car furnish a secure, yet flexible installation. The antenna is installed on the left side of the car. The use of strong rubber cords for guys provide flexibility of the antenna from front to rear (see photograph).

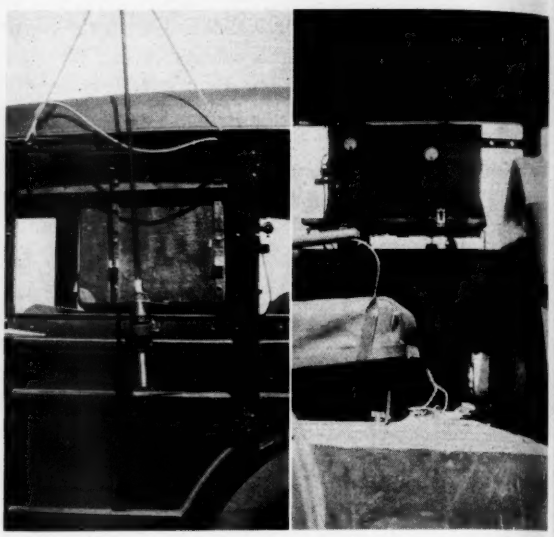
Regimental panel: A window shade is installed on the roof of the car, so that when unrolled there is presented a painted replica of the cavalry regimental panel for communication with airplanes. A cord extending inside the car permits the operation of the panel from the rear seat of the car.

Technique: The extensive use of the scout car radio was normal, as this vehicle provided continuous and speedy communication with the reconnaissance car. One of the mounted radio sets rode with the column ready for attachment to a separate squadron or mission; the efficiency of this set in receiving broadcasts from a scout car made the coördination of these agencies an effective team for reconnaissance and maneuver. When available, the regimental motorcycle followed the reconnaissance car at the head of the column, and parked near it at the command post; this message carrier proved to be a vital link in the chain of command.

Results: The utility of the communications team as described above was a source of pride to all who watched it perform. For extensive maneuvers and demonstrations during the training season, and on the occasion of the annual tactical inspection, the unit provided almost perfect communications. Illustrations of extreme examples of this performance were:

A demonstration of a cavalry regiment in coördinated offensive action, every detail of which was timed and ordered by a narrator who described the maneuver from a point of vantage on the enemy position.

A demonstration in which a spectator would be asked to drill a mounted group including a pack radio section which was placed as far away as the eye could see, using the voice radio of the scout car, and having the commands received at a walk, trot, and gallop by the mounted group.



Two views showing arrangement of radio equipment in command car.

A maneuver in which a scout car in a good observation location directed a squadron over intricate ground in the presence of, but under cover from the enemy, the information being transmitted to the squadron commander by a radio set mounted at his side.

And a command post exercise during which more than fifty normal communications were transmitted between the regiment and its subordinate units on a time schedule covering two hours, and during which not a single message took more than six minutes to clear.

These are unusual examples, of course, and are presented only as ideals which may find extensive application in the tactics of a fast-moving cavalry force.

IN SCOUTING AROUND *in San Domingo searching for a likely plantation site for the legume called coca, which supplies us with chocolate, I bought a horse for $35.00 and sold it in a couple of weeks for $15.00. When the buyer inspected my animal he got to one side of his head and made a sudden whirl with his arms. My cayuse, not only did not start, he never blinked an eye! I tried, in my poor Spanish to convince him (the buyer) that this was an asset for it showed that the horse had an iron nerve. I did not succeed!*—CAPTAIN JAMES A. MCGUIRE, *author of "The Tank Ju-Ju."*

Has the Army Too Much Radio?

By Major General J. B. Allison
Chief Signal Officer

I view with distrust the use of the radiotelephone.

I AM frequently asked, "Has the Army too much radio?" This question comes up in one form or another almost every day: "should our laboratories undertake to develop a new radio set for a certain purpose?" "Should a proposed basis of issue of radio equipment be approved?" "Can personnel be spared to operate a certain station?" Sometimes the proper answer to such questions is "yes" and sometimes "no." Each case is a special one and must be decided on its own merits, usually only after very careful study of cost of equipment, frequencies required, demands for personnel and the actual need for the additional communications requested.

In some quarters the growth of our radio organization is viewed with apprehension. It is true that the number of different types of sets, the total number of sets and the number of men assigned to operate them have all continued to increase. Since 1903 when the first Army radio stations began handling regular business across Norton Sound, radio has sold itself as the answer to more and more Army needs. It is natural that this persistent augmentation of our radio set-up, with its consequent demands for more men and money, should occasion concern, especially so among those who have not been in close touch with radio development and among those who visualize the communication needs of the 1936 Army through the veil of their memories of operations in the A.E.F.

It is a truism to say that we are living in a marvelous age. It is trite to mention that radio has had an amazing evolution from the crude, heavy, power-consuming sets of a former period to the finished, light, efficient equipment which we have today. The Army has also greatly changed during this period. It has become more and more complex with each passing year and its means of transport has continued to speed up. At the cost of becoming tiresome, I must mention these things because they account for the constant expansion of our radio set-up.

Our changing army is constantly finding new needs for radio; and radio itself is ever improving its ability to serve these new needs while serving the old needs better than before. Because of these things, our radio organization which filled the bill in 1916 was ancient history in 1926, and in turn our 1926 set-up would look like the horse-and-buggy days now. We just cannot imagine the GHQ Air Force, the Mechanized Brigade or the 1st Cavalry Division without modern radio. Nor could the commanders of these organizations hope to coördinate the action of their commands without it. To the offhand peruser of the radio charts of these organizations, they may seem extravagant of personnel and equipment. But to the commander, faced with the actual problem of control, they represent the minimum essentials.

By virtue of Army Regulations I am the advisor of the War Department on radio matters. In that capacity I am frequently forced to apply the brakes when people ask for more radio. But I do so only after careful study and then I see that the matter is followed up to make sure the decision is the correct one. I have little fear that radio will be unduly expanded; there are too many hard-headed commanders, staff officers, inspectors and other higher-ups who look at radio with a cold and fishy eye. Whatever place radio has in the Army, it has earned, and whenever it lays down on the job, you may be sure it will be promptly kicked out.

When I am asked the question, "Has the Army too much radio?" I know the questioner believes the proper answer to be "yes" and I assume he has some definite phase of the problem in his mind. A simple "no" will not satisfy his doubt. It is necessary to learn just what is back of his question. Effort may then be concentrated upon answering along that line of thought. The questioner usually has in mind one or more of five different phases of the problem. I shall set them down in turn in the form of questions, each followed by my answer to that phase of the subject.

Question 1: Radio is slow, unreliable, subject to enemy jamming, interception and goniometric location. It does not compare in reliability or usefulness with the wire telephone or telegraph. Therefore why not soft-pedal the former and concentrate on the latter?

Answer: The premise is correct and well recognized. Units which can hope in active operations to keep up wire communications, plan to do so. With them, radio is merely a contingent or auxiliary means to be resorted to when their respective wire systems have failed or before they are put in. The main effort of the communication troops of such units is naturally toward the upkeep of their wire systems. On the other hand, air-air and air-ground communications and those within mechanized and horse cavalry must obviously depend upon radio for long distance and immediate action communications. With them, radio has priority. They recognize its disadvantages but they realize it is radio or nothing. I am happy to say that radio is giving them satisfactory service. That they will have much more serious difficulty with radio when in contact with the enemy than in peace-time maneuvers, no one doubts. The effectiveness of radio for the next war, like that of air operations, can obviously never be proven until the opposing forces are in contact. Meanwhile, against such a test, we are striving to put into the field the best equipment in the world and a radio organization capable of handling it effectively.

Question 2: The War Department Radio Net is han-

dling a large volume of traffic and is handling it well, but at a number of small posts there are radio stations which do only a handful of business. The pay of the operators sometimes exceeds the charges which would be billed against the Government were the entire traffic of the station turned over to commercial companies. Since such stations are not economically justified, why not close them and assign the operators to other duties?

Answer: It is a fact that the radio stations at two of the smaller posts are definitely not justified economically, and it is probable that several other stations would be similarly classified if all items of cost were charged against them, but this is a question which has been asked officially and has been answered with finality. In 1931 the Chief Signal Officer appointed a board of officers to study this matter and as a result of the board's report, recommended the closing of 30 of the smaller stations. There followed protests from corps area commanders, and only nine were actually closed. Then came urgent requests for reopening and seven of the nine were recommissioned. Thus, of the 30 stations recommended for closing only two have remained closed and of these, one was located at a post which has since been abandoned. The net result of all this bother is thus approximately zero. In many respects corps area commanders differ from one another, but they have this in common: each is quite insistent that communications with all the fighting troops of his area be safe from interruption in case of national emergency or domestic disturbances. Even though the commercial companies may have a number of alternate routings from corps area headquarters to a distant small post, the all-Army direct radio channel gets the call. The experience cited seems to have definitely settled the question. Forts Brady and Wayne have their stations and, economically justified or no, I believe they are going to keep them.

Question 3: Each radio set which is authorized requires at least two and usually three operators. We have difficulty in training our relatively small peace-strength personnel even though we have all year to do so. How can we hope to train the large numbers of operators required for the war-time Army when we shall have only a few weeks available for their instruction?

Answer: This is a serious problem and one that is receiving earnest attention in my office. We expect to select for training as radio operators only the most promising and mentally alert of our Signal Corps recruits or draftees. Assuming ideal conditions, we hope to be able to turn these men out effective field radio operators at the end of 16 weeks. The problem of the reserve divisions, therefore, seems capable of satisfactory solution. But for the inactive units scheduled to arrive in the theatre of operations as part of the covering force, the radio operator problem will be more difficult. However, there are something like 48,000 amateur radio operators in the United States varying in ability from almost complete ineffectiveness to a state of excellence approaching commercial or War Department net standards. These latter and the considerable field of commercial and ex-Army operators will be our main reliance for the early units. We have contact with about 1,200 excellent amateur operators in our Army Amateur Radio System. These men, working entirely on their own time, learn Army procedure and handle Red Cross and other emergency traffic in accordance with Army methods. As far as the Signal Corps is concerned we can and will find a solution. This problem is equally serious, perhaps even more so, for the Infantry, Cavalry, Field Artillery, Air Corps, Coast Artillery, and the several corps areas. It is presumed that each has worked out its plans.

Question 4: Because of its complexity of equipment, because of its lack of secrecy and because of its wide frequency channel, should not radiotelephony be curbed and should not Army field radio sets be built for radiotelegraph operation only?

Discussion: During the last five years the Army has exhibited a marked tendency to abandon the radio key in favor of the microphone. This tendency is viewed with alarm by many students of the subject, who point out that when a radiotelegraph set is replaced by one using voice modulation, three important disadvantages attend the change:

(1) The new set is more complicated, expensive and difficult to maintain; in addition it is heavier and requires more power for its operation.

(2) Speech is less secret than dot-dash signals and less adaptable to the use of code.

(3) A voice modulated signal cannot be tuned as sharply as can an unmodulated radiotelegraph transmission. In allotting circuits, therefore, telephone nets require about 2½ times the frequency separation as do nets which use unmodulated telegraph only. Owing to the inadequacy of the usable spectrum for Army requirements, this appears an extravagance difficult to justify.

In discussing these points in sequence, the situation may be analyzed thus:

(1) It is true that radiotelephone equipment is more intricate, requires more skill for its maintenance and costs more than corresponding radiotelegraph equipment. Voice sets are also slightly heavier. In addition they require a larger power input for the same distance range than do radiotelegraph sets. These increases in weight and power input might well be of decisive importance for some possible special use, but when the set is to be transported by a motor vehicle or airplane and operated from its source of power or from a separate gas engine these factors assume minor importance.

(2) An organized radio intelligence service will employ expert operators for its intercept activities. Such a service may be expected to have little difficulty in making reliable transcript of key traffic or of voice transmissions. In this respect, therefore, the telephone is not at a dis-

advantage. However, when radio traffic is by voice in the language of the enemy, we may be sure his front-line troops will also listen in and that such an expanded radio intelligence service would almost inevitably learn at least the general intentions of the voice-using unit. The adaptability of voice transmission to code has not been fully investigated by our Army nor are results available of any tests which may have been held elsewhere. Lacking such information, material has been prepared to test the use of code with voice transmission. Reports of recent maneuvers indicate that an enemy would be likely to gain much information from our radio transmissions because of carelessness or ignorance in cryptographing and unnecessary informal communications between operators whether by key or voice. By the use of radio monitoring stations at future maneuvers, it is hoped to correct our deficiencies, determine the weaknesses of our methods and learn the relative merits of radio telegraphy and telephony in respect to secrecy.

(3) The dispersion of small Army forces at widely separated posts generally permits each such unit to utilize for its training the entire frequency band of each of its types of sets. These units are thus able to be most liberal with themselves in the matter of frequency channel separation for the various local nets. Warning of scarcity in case of a large concentration disturbs them only slightly, as of some far remote possibility which may never occur. Such being the case, it is difficult to make them see the famine of frequency channels which will exist when a field army is concentrated in a theatre of operations. However, in spite of the nonconcurrence of the using arms, the extravagant demand of the telephone channel for width of frequency band is a vital concern to us all.

This analysis seriously indicts the radio telephone. The only friends it has are the people who use it; they swear by it. They point out that for rapid operations, coded telegraph messages are entirely too slow for the need, whereas a few words by voice are sufficient to coördinate instantly the movements of a large force. They mention the fact that three or four highly trained radio mechanics can keep many sets in operating condition whereas the numerous operators, since they need not be fast key-men, can give much of their training time to other specialties required by their units. Radiotelephone enthusiasts also attempt to show that, for the more frequently used messages, a simple prearranged code, supplemented by a specially prepared map, will secure the necessary secrecy. They contend that before an enemy could solve such messages and act on the information they contain, the situation would have so changed as to render the information of no value.

Answer: After considering all sides of the problem, I continue to view with distrust the use of the radiotelephone because of its lack of secrecy and its wide frequency channel. Pending results of tests of radio secrecy and collection of further information on use of frequency channels, I believe it wise for the using arms to fully investigate the tactical possibilities of voice transmission. But they must be prepared to use the telephone with the serious restrictions which will have to be imposed.

Question 5: A war-strength field army under present allowances will have about 2,000 radio sets in more than 327 separate nets. So many nets cannot operate on the available frequencies without mutual interference. This being so, why not take much of this equipment away from the troops now burdened with it and leave only those sets which can all operate at the same time? This would avoid some of the confusion we now experience in radio operation and would save men for the firing line. Moreover, the money which is now spent on this surplus radio equipment could be utilized for other things which we sorely need.

Answer: (1) Before answering this question we shall ask and answer a question of our own, "Who are the troops presumed to be burdened with radio equipment that they cannot use?" Obviously not the Air Corps, Cavalry or mechanized troops. There are left then, the Infantry, Field Artillery, Antiaircraft Artillery and Signal Corps. These troops are apparently assumed to be so burdened. But are they in fact? It is true that the former, more speedy group will require the lion's share of the limited frequencies and that there may be too few channels left over to permit all nets of the latter group to operate simultaneously. However, before we make this a positive statement and say there definitely will be too few channels, we must know the character of operations in which we shall be engaged. If these operations will be similar to those on the Western Front in 1918 then there is no question about it; there will be too few channels to go around and some modification will have to be made in the normal organization of our radio nets.

(2) In such a case, it will be the duty of the Army Signal Officer to find a solution and to devise a special radio organization to fit the situation from day to day. The indicated solution is liberality to units in the main effort and to those anticipating special need, but restraint to those in less vital operations. The Army Signal Officer will remember that radio is only an auxiliary or contingent means for these troops and he will know how to apportion the available frequencies so they will do the most good. For example: our charts usually show all 12 infantry battalions, 4 regiments and 2 brigades of a division on the front line, grouped into six tactical nets and thus requiring six different frequencies. This chart is purely schematic and we never expect to see such a formation in action. Three regiments with six or seven battalions on the line would be a more likely attack formation. Three frequencies, instead of six, would serve the infantry needs of such a formation. In emergencies, even a single frequency might save a situation otherwise lost. During the bombardment of the 3d Division by the Germans on July 14 and 15, 1918, at the Marne, every line of the 4th Infantry was severed. Eight pairs of linemen went out in an endeavor to repair the breaks

but every man was either killed or wounded. Radio was then resorted to and operated successfully.

(3) But many strategists find it difficult to visualize operations on the North American Continent similar to the trench-warfare stalemate of the Western Front. They picture swift-moving thrusts by forces operating with strategic coördination but with considerable tactical independence and wide intervals between adjacent forces. The main ideas are strategic speed, surprise and fast moving drives against vital points. If the operation of a force is blocked it will not necessarily dig in and organize for a head-on attack against a prepared position. Rather will it seek to withdraw and to move with speed to strike a telling blow elsewhere. It will abandon its strategic mobility only as a last resort. If this be the likely character of our future operations, we shall need all our radio nets and shall be able to operate them simultaneously. Incidentally, it would be quite impracticable to maintain wire communications for operations of this character.

Such are the questions. It is well that they are asked. They indicate that thought and study are being given to our radio set-up and discussion of such matters is valuable. Although I live with this problem and have a certain familiarity with it, I almost never leave a new discussion of it without feeling that I have touched a new point of view and am therefore one step nearer the correct solution.

The opinions expressed and the conclusions drawn in this article are those of the author and not of the War Department. This is true of all articles published in The CAVALRY JOURNAL, but in view of General Allison's position as Chief Signal Officer, the fact is restated. — EDITOR.

An Automatic Watering System

BY MAJOR CLYDE PICKETT, *Cavalry*

A SATISFACTORY automatic watering system for each animal has been installed in the stables of the 3d Squadron, 107th Cavalry, Ohio National Guard, at the armory in Cincinnati.

A bowl was installed between each two stalls, in an opening cut in the partition at the manger, which can be reached by each of the two horses. A one-half inch pipe carries the water to the bowl, being connected near, but not quite at, the bottom. Over the end of this pipe, which projects about one-half inch into the bowl, is screwed a cap containing a fine screen. The one-half inch pipe is connected to a one and one-quarter inch pipe extending from a small tank containing a float. One of these float tanks will operate (feed) twenty bowls. The float tanks are about the size, and operate on the same principle, as an ordinary toilet flush tank. The water is maintained in the bowls at an even level by the float which automatically opens and closes the attached valve as the water level is lowered or brought up to the normal.

The system *works*. It is simple, practical, and valuable.

The advantages of this system over others that have not proved satisfactory are:

No drains from the watering bowls to become clogged with food and saliva.

The system is automatic, which provides the horse with all the water that he wants at any time.

There is no "gadget" in the bowl for the horse to play with and put out of order as in the case of fountain systems.

A drain is provided for each section so that in extreme winter weather, when there is danger of freezing, the entire system can be drained.

A clean water receptacle is assured in that the caretaker is required each day to take a bucket and sponge and clean each bowl, removing all sediment and washing the interior of the bowl.

The value of such a system is apparent in the improved condition of the horses and the great amount of energy saved by the caretakers, which affords more time for grooming and other work.

THE CAVALRY SCHOOL DIGEST OF INFORMATION

Cavalry Horses in the World War

PREPARED BY 1ST LIEUTENANT J. PAUL BREDEN, Cavalry

(A Student Research Article)

"When the situation demands, the horse can work even though his supply of water be extremely limited or absolutely denied him for a period of many hours. Even though denied food and water for limited periods, and even though lame, the horse can still advance until death stops him in his tracks."—*Tactical Principles and Logistics for Cavalry*, the Cavalry School, 1934, Part II, paragraph 269-c.

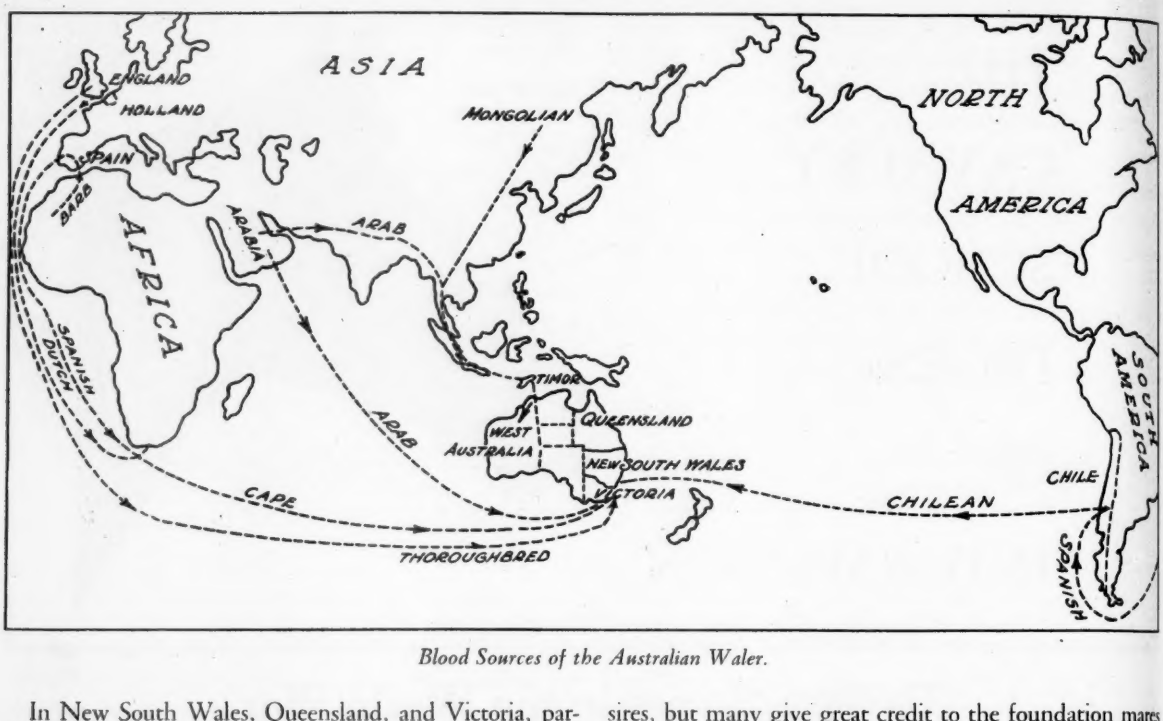
DURING the World War, the cavalry horse saw his greatest use in the Near East. In France, cavalry was used extensively in the first part of the war, but the heavy massing of troops, continuous and elaborate trench systems, concentrations of artillery, the absence of flanks to envelope—all this left little for the mounted man to do. In Sinai and Palestine, on the other hand, distances were great, forces had to be kept at a minimum consistent with the security of the canal, maneuver was all-important, and the set-up was ideal for horsed combat.

Chauvel's Desert Mounted Corps contained, perhaps, as great a variety of horse types as has ever been assembled under one command. It was made up of three mounted divisions, composed of Australians, New Zealanders, British yeomanry, and Indian cavalry. The horse on which these three divisions were mounted represented more parts of the world than did the men who rode them. The men from "down under" were mounted on horses they had brought with them from Australia. The Indians also were mounted on Australian horses. The animals of the yeomanry brigades were drawn from all over the world, including the United States, Canada, the Argentine, India, Australia, Northern Africa, and the United Kingdom. The Desert Mounted Corps, therefore, constituted an ideal proving ground for those interested in comparing horseflesh.

By this comparison, the Australian "Waler" was considered incomparably superior to all his rivals. The fact that the cavalry leaders were so much in agreement as to the value of the Australian horse should cause any breeder or buyer of cavalry remounts to study the background of this horse.

The history and development of the Australian horse is interesting to trace. Prior to its discovery by the white race, Australia contained no horses, but the nature of the country was such that the colonists soon began to import them. We find these importations varying in different sections of the country, but in general they can be covered in two classifications: those imported and bred in the fertile grasslands of the east, and those brought into the rugged hills of West Australia.

The latter group, while interesting, is not so important as far as the cavalry horse is concerned, and the history of this group can be quickly summarized. These horses were chiefly imported from Timor (see map) and were descendants of Mongolian ponies freely crossed with Arab blood, a cross which almost invariably has met with success. The climate severe, the country rugged with little grass, it was a case of the survival of the fittest, and this pony thrived. Many achieved their freedom and ran in wild herds over the country. Animals running in herds have a tendency to decrease in size and these were no exception. They were small, averaging 13 hands, and almost universally brown in color.



Blood Sources of the Australian Waler.

In New South Wales, Queensland, and Victoria, particularly New South Wales, was found the finest horse-breeding country. There was unlimited pasturage of the best sort and a very favorable climate. It cost practically nothing to keep a horse, and here, naturally, the best horses were bred.

The first horses brought into this country were from the Cape, of mixed Spanish and Dutch descent. Later, Chile became the greatest source of imports, horses of Spanish descent with considerable Barb blood. For many generations this horse had run in herds on the South American prairies. All these horses were comparatively small and capable of shifting for themselves. As early as the jousting days of Richard the Lion Hearted, in England, the Spanish horse has been outstanding for speed, endurance, and courage.

Later, the colonists not entirely satisfied with this small animal, began to import Arabs, and still later, thoroughbred studs from the English race-tracks. The long trip from England, high prices, and high mortality in boat shipments made the importation of the thoroughbreds a very expensive proposition and it was many years later before any thoroughbred mares were brought in.

Australia in its early days was almost entirely pastoral, and the prime necessity for everyone was a saddle horse, not for speed, but for endurance, easy gaits, and a good disposition. Consequently horse breeding was profitable. There were a great many good horses, repeated race winners, which were imported. Skeleton, Stump, Problem, Steel Trap, Emigrant, and Grampus were prominent among them. The popular bloodlines were those of Stockwell, Musket, Whalebone, Fisherman, and Glencoe.

These, then, were some of the Australian foundation sires, but many give great credit to the foundation mares —the hardy Cape, Chilean, and Arab mares to which the thoroughbreds were bred. One mare line, descended from a mare called Model, was in great demand. Mares of this line were called "Model-Mares."

The result of crossing this sturdy foundation stock with thoroughbred blood was excellent. This lightweight saddle horse gained the reputation of being the best in the world. Even Englishmen gave it credit for being a better horse on the average than the English hunter of the fox-hunting era. Reasons given for this superiority were that the Australian was easier to ride, had more endurance, was a better keeper, was free from roaming, and had sounder legs and feet.

There was a sharp decline in the quality of Australian horse-flesh when the gold rush of 1851 upset the even tenor of the farmer's life. Ranches were abandoned, horses turned loose, and breeding became promiscuous. The country became literally overrun with herds of wild horses. It was during this period that the English cart horse, imported for work in the mines, first began to taint some of the horse blood of the country.

Prior to the World War, this Australian "Waler" had already made a name for himself in the South African and Russo-Japanese Wars. He was highly in demand in the Indian cavalry, not only for his speed and stamina in field service, but also in the realm of sport. He had natural ability as a jumper, was the only horse that could outrun the quarry in fast pigsticking, and was particularly praised as a polo pony, at which he excelled.

Before the World War, these horses were bred in large numbers. One census of Queensland alone enumerated a total number of horses at 430,555 to a population of 515,530.

Since the World War this has ceased to be the case, but in 1914 there was no lack of horses, not only to equip the Australian forces but many of the other colonial troops beside.

The Australian Light Horse regiments, taking their own horses, went directly to Egypt in 1914. Throughout the war their remounts came from Australia. These were not uniform in conformation, size, or breeding and included every possible type. One common trait, however, looms large in importance. Practically all were one-half thoroughbred or better. There were even cross-breds by draft Clydesdales and some with Welsh pony blood, but the typical "Waler" was decidedly the product of the original Australian foundation stock by thoroughbred sires. He was described as "small on the average, compared to the English horse—he is light boned but the bone is of good quality; he has, as a rule, well laid shoulders and a light forehand." He often had the ugly head of Spanish origin, and frequently his cross-breeding left much to be desired in his conformation, but nearly all had sound legs, clear bone, and sound wind. Claiming that good blood was a better weight carrier than big bone, the Australian said that the English hunter looked to him like a cart horse. This claim was substantiated by the showing made in Palestine and Sinai, for after the long severe marches and campaigns the English hunter had to be nursed back to health, but the little Australian horses were soon ready to go again.

During the Gallipoli campaign, the Australians left their horses in the care of grooms and fought dismounted. In March, 1916, the "Waler" had his first real opportunity to prove his worth. In the change from passive to active defense of the Suez Canal, the cavalry started reconnaissance in force of the routes across the Sinai desert. On one of these trips to Wadi um Muksheib, northeast of Suez on the central route, they traversed 80 miles of barren desert in 37 hours, including halts. They took camels along to carry water but soon discovered that the camels merely slowed them up. The horses could have gotten along as well without them over that period of time. Both men and horses were in good condition at the end of the trip.

From this time on until the end of the war the horsed units were almost constantly in movement, on extended reconnaissance when not otherwise engaged. Long marches were common and were made under the most adverse circumstances. Grazing areas were few and far between. Water was scarce, usually brackish and often infested with leeches. Grains and feeds were low in nutritive value and roughage was often absent from the diet. Flies were terrific and sanitation a constant problem. Excessive heat with no shade intensified the burdens and vitiated the rest periods.

The marches were made for the most part through deep sand that made anything but the walk impossible. In other sections the country was so rocky that it was necessary to follow goat tracks to get through. In some places there was row after row of dry stream beds whose banks were so precipitous that crossing from one bank to the other was impossible. On one occasion, in the raid on Amman in March, 1918, after crossing the Jordan, it took 24 hours to cover 16 miles.

Most of the raids and expeditions, which were the chief test of the endurance of the animals and men, followed the same general course. Leaving camp at nightfall there would be the long night approach. Contact with the enemy would be gained at daybreak and the battle would continue throughout the day, closing in the evening with the decision gained about dusk. Then would come the long march back to camp. Arriving at camp, the horses would probably have gone the entire period without their saddles being removed or having been watered.

Incidentally, this watering at the end of these excursions was rather a difficult matter. A horse that has not been watered in 36 hours is hard to handle when the smell of water reaches his nostrils. It was found necessary to put up heavy guard rails at every trough.

The attack phases of these expeditions sometimes called for rapid action. At Beersheba, after a 25 to 35 mile march to gain position, they galloped in line of troops over two miles of open plain, through the fire of several Turkish batteries. Later in the same day an entire brigade galloped at full speed over the trenches of the inner defenses, and dismounting, bayonetted the Turks. In this charge, which lasted less than ten minutes, only one horse was wounded. On still another occasion, the 3d Light Horse Brigade on 19 September, 1918, covered eleven miles in 70 minutes.

Throughout the war, examples of the stamina and endurance of the "Waler" are numerous. On one occasion the cavalry divisions marched 170 miles in nine days, on a short ration of 9½ pounds of grain per day without any bulk feed, the actual intervals between waterings, for certain portions of the command, being 68, 72, and 76 hours respectively. These horses demonstrated an ability, scarcely inferior to the camel, to do without water, and this fact increased the cavalry mobility enormously. This endurance was the more remarkable when one considers that the heat was intense and that a horse will refuse food after being without drink for several hours.

On another occasion one squadron had gone 60 hours without water. The horses were so exhausted that they lay down in the sand at each temporary halt but responded gamely when urged to go forward. Even in spite of this they were able to engage in a final gallop before the dismounted attack and to carry their riders on home.

One tribute to the "Waler" reads: "During sustained operations, on very short rations of pure grain and no water, over periods which extended up to seventy hours: when horses of baser breeds lost their courage and then their strength, the Waler, though famished and wasted, continued alert and brave and dependable. The vital spark of the thoroughbred never failed to respond. As long as these horses had strength to stand they carried

their great twenty-stone [approximately 280 pounds] loads jauntily and proudly."

In order to fully understand the Australian horse, one must know something of the Australian rider. At the outbreak of the war, recruits for the Australian horsed regiments were accepted almost entirely from the up-country stations, and were received in pairs—the man brought his favorite horse with him. Even before the war the Light Horse was composed largely of a group of farmers who had done their annual periods of military training on horses they had themselves bred and owned.

These farmers were not horsemasters as we know the word, and as horsemen the English had much to criticise, but their knowledge of horses was great. They had always taken an intelligent interest in the breeding and care of stock. Their riding ability was based on the fact that from boyhood they had "undertaken as a matter of honor, or pride, or of necessity, the breaking and backing of bush-bred colts and the riding of any horse that came their way. Their horsemanship came next to, if not before, their religion."

But the Australian had had little experience with the fine points of the care of the horse. The mild climate, extensive grazing, and freedom from disease had made very little care necessary. When an animal was wanted, it was brought in from pasture or paddock, perhaps cleaned up a bit, and ridden. The ride completed, the usual procedure was to remove the saddle and turn him back to pasture without the formality of grooming, feeding, or watering. Strangely enough, due possibly to excellent horsemanship and the almost entire freedom from animal disease, sore backs were seldom found, and the veterinarian had little to do. If one horse got thin from overwork they merely let him rest and used another. Horses were abundant and cheap.

While this attitude toward their horses caused difficulty in the first part of their military service, their instinctive understanding and love for their horses soon made them horsemasters par excellence in the practical sense of the word. The Australian was noted for his common sense, a fact which taught him early in the war that a good horse in Palestine was the pearl beyond price, and that if he let it go because of a sore back or any other reason whatsoever, that horse was forever lost. He learned early, if the same horse were to be ridden day after day, ceaseless grooming and proper balancing of loads were essential. Having learned this, his horse received the best of handling, so much so that if criticised over the condition of his equipment he would answer that the horse needed all the care, the equipment could take care of itself. He was always on the lookout for his horse, a fact that caused his superiors considerable trouble. If sources of feed were available, it made no difference that there were strict orders against appropriating any of it. If his grain sack needed filling, the Australian did not hesitate, with the remark that it was a poor kind of staff that couldn't take care of such trivial details. They loved their horses and treated them as comrades rather than as slaves or as a means of transportation. In the advance on Rafa, made by the Egyptian Expeditionary Force in January, 1917, there was an example of this when the Anzac Mounted Division marched out of El Arish. They had halted at 10:00 P.M. after a particularly severe and trying day's march. The men tried to catch some sleep with an arm through the reins, but when it was discovered that they had halted in a field of young grain, practically the entire division gave up any thought of sleep for themselves and spent the rest of the halt grazing their animals.

The comparison of the "Waler" with the other horses in the Desert Mounted Corps was, as has been previously stated, entirely in his favor. The Irish and English thoroughbreds were superior horses but too few in number to be considered. Some considered them too frail for the military horse. Not many of the English hunters were able to carry the required load. The English hackney was all right for slow work but failed when faster work was required. The Argentine horses, entirely grass-grazed animals, were fine in their own country but became homesick and hard to acclimate in a desert country with a grain ration. The Arab, while remarkable for his endurance over the desert, was not a weight-carrier and was much given to sprained tendons and ligaments. The American horse, bought at too low a price and standard to get a very good animal, was mostly of the harness type and not outstanding for saddle purposes. The Indian country-breds, which were mostly cross-breds of the various animals imported into India, while showing many fine animals, still averaged low on account of so many weedy, excitable, and ill-bred animals.

Another interesting comparison, which the war in the Near East made possible, was between the capabilities of the horse and the camel. Great numbers of Australian horsemen were utilized to form the Imperial Camel Corps, an organization used throughout the war. The camels bought were of the best types, white riding camels with pedigrees running back several hundreds of years.

The camel has two gaits, the amble and the trot, the first from 4 to 4½ miles per hour, the latter 7 to 8. He can gallop but the sensation is decidedly unpleasant. He is powerful and has great endurance. One writer mentions camels having traveled 225 miles in 28 hours, others almost a thousand miles in 19 days, a daily rate of 50 miles. The usual figure given as to the capability of the camel is that he can carry a 400-pound load for 25 miles a day with one day of rest each week. He can go thirsty a week or more without trouble. A Somali camel could go as much as 18 days before dropping in his tracks. One of the finest camel marches of the war was made by a brigade, a distance of 920 miles in 41 days with 12 waterings. Losses of camels were 3 per cent died en route and about 7 per cent evacuated.

Although the Australian appreciated the good points of the camel, he never cared for it in the same way he did his beloved "Waler." The man going into battle on a camel is situated far differently from the man on the horse. The camel cannot be used in fast work or for a

quick escape. Once dismounted, the camel troops are definitely infantry. The camel requires grazing on an average of six hours a day to keep him in condition and such a requirement seldom fits into the military routine. Furthermore, he makes such loud roars and grunts in getting up and down at the halt, that secrecy in night marches is almost impossible. The horse did not lose by comparison with this animal.

Analysis and Criticism

The following factors were responsible for the good showing made by the "Waler" as a cavalry horse:

1. Speed, spirit, and gameness from his thoroughbred blood.

2. Speed, endurance, and courage from his Spanish blood.

3. Hardness, ability to shift for himself, and speedy acclimation to new surroundings, changes in feed and water, due to the semi-wild range life of many generations of forbears.

4. Good bone, soundness of wind and limb, and freedom from disease, due to careful breeding and the excellent type of country in which reared.

5. Good gaits and good disposition from the fact that his forbears, back to the days of the earliest importations, were bred primarily as saddle horses.

6. Speed and agility from his rather small size.

7. Weight-carrying ability from his general soundness and fine spirit.

Other types of horses, lacking in one or more of these qualities, did not stand up under a form of grueling service which brought out all that was good or bad in their make-up.

The camel, although a fine animal for making long marches across desert country, was definitely a means of transportation and not a cavalry mount.

Conclusions

The ideal cavalry horse has the following qualities:

soundness,
courage,
spirit,
speed,
endurance,
agility,
easy gaits,
good disposition,
ability to carry weight,
ability to endure thirst,
ability to acclimate himself to changed surroundings,
adaptability to either saddle or pack.

These qualities must be combined in such manner that he can carry weight over long periods of time, under adverse circumstances, maintain his spirit, and recuperate quickly for further endeavors.

The Australian "Waler," by possessing the above qualities in a more marked degree than other horses, has proved:

1. That universal siring by thoroughbred studs is the best method of improving a nation's horseflesh.

2. That mares selected for breeding purposes should be of hardy stock, carefully selected, not only for soundness and desired traits, but also, naturally, from saddle types rather than harness or draft.

3. That Spanish and Arab blood lines cross successfully with thoroughbreds.

4. That soil and climate greatly influence horse raising.

5. That the smaller, more agile, animal of good blood is a more suitable all-purpose mount for the cavalryman than the larger hunter type.

Departmental Texts

DURING the past year as a special project the Departments of the Academic Division have each prepared texts for their respective departments, with a view to combining under one cover practically all data and information required by that department in the conduct of its courses.

The texts are a compilation of matter contained in basic field manuals, training regulations, manuals, school texts, etc., and a considerable amount of new material not heretofore published. They are divided respectively into volumes, parts, chapters and sections, stapled by chapter and prepared for arrangement in loose leaf, stiff backed binders.

The Department of Weapons and Matériel text consists of three volumes divided into seven parts, generally subdivided as follows: General Subjects (including the technique of the regimental headquarters and machine-gun troop), Light Machine Guns, Musketry and Combat, Packs and Harness, Heavy Machine Guns, Special Purpose Weapons (including the caliber .50 machine gun, the submachine gun, and the 37-mm gun), Firing at Moving Targets, both Ground and Aerial, Demolitions, Radio Sets, and Motor Vehicles. Text is profusely illustrated and contains a considerable quantity of new material for which there has been much demand.

The Department of Tactics text consists of one volume, in three parts: Tactical Principles (Horse Elements), Tactical Principles (Mechanized Elements), and Logistics. It replaces the former school publication, Tactical Principles and Logistics.

The Department of Horsemanship text consists of one volume divided into four parts as follows: Education of the Rider, Education of the Horse, Animal Management, and Horseshoeing.

The texts are for sale at a minimum cost and can be obtained through the Cavalry Journal or direct from the Book Department, The Cavalry School. It is believed every Cavalry officer, Regular, National Guard, or Reserve, should have these books in his personal library.

Development of Cavalry Weapons, Past, Present, and Future

Prepared by Lieutenant Colonel Karl S. Bradford, Cavalry

Saber

A SABER, properly speaking, is a curved-bladed weapon. The Cavalry had a saber up to shortly before the World War, when we changed to a straight-bladed weapon. The latter is, properly speaking, a sword, although we continued to call it a saber. The saber was for cutting, the sword for thrusting. Recently the saber (or sword) has been abolished, and all of our weapons are firearms.

Firearms

Modern firearms are the result of over five centuries of development and it is probable that on no other article in use today has more time and thought been expended. The principal steps in this development might be listed as follows:

a. Invention of black gunpowder.

b. A muzzle-loading weapon that utilized gunpowder to propel a projectile, the charge being ignited by a slow match (fourteenth century).

c. A mechanism to ignite the charge by means of sparks cast by flint on steel (seventeenth century).

d. The percussion lock, using fulminate of mercury in a small copper cap to ignite the charge (about 1820.)

e. The breech-loading firearm (about 1850).

f. The metallic cartridge (about 1860).

g. The repeating rifle (about 1862).

h. The machine gun (about 1884).

i. Smokeless powder (about 1890).

Since 1890 there has been a tremendous advance in the efficiency of firearms, but it has been due to refinement of design rather than new basic inventions. Bullets are better shaped, powder has been improved, and the mechanical reliability of the weapons has been increased.

Automatic Weapons Prior to Gunpowder

An automatic weapon is one in which all or part of the operations of loading and firing are performed without manipulation on the part of the gunner. The development of such weapons has been sporadic, not continuous. Previous to the invention of gunpowder, the idea of increasing the amount of fire was incorporated in the catapult and the ballista. Each of these engines threw a number of missiles at the same time, the former, developed by Alexander, using arrows, the latter, used by the Romans, throwing stones. The catapult had a range of about 600 yards, the ballista a range of almost 1,200 yards. While the former corresponds to the usable range of our rifle and the latter to that of our light machine gun, the effectiveness of the early weapons at these ranges was doubtless very slight. A crossbow throwing ten arrows simultaneously was used at the Battle of Hastings in 1066.

Automatic Weapons Prior to Maxim

After the invention of gunpowder, or more properly speaking, after its existence was known in the Occident, we find the Romans in 1388 using an iron-forged muzzle-loaded weapon which fired simultaneously 48 arrows each weighing about one-half pound and each propelled by about one-third of an ounce of powder.

About 1500, the Germans had a mortar which fired simultaneously a number of stones, each about the size of a walnut.

In the 15th century, the ribeaudequin, which was a number of small cannons mounted on a common carriage and fired simultaneously, was used.

In the 16th century, the organ gun appeared. It consisted of a row of tubes in a horizontal plane on a cart. The tubes were loaded by hand and fired by a fuse or chain of powder. A similar weapon was used in the Requa Battery in the Civil War.

Up to this time, none of the devices for increasing the rate, or rather the amount, of fire, provided any rapid method of loading. The time required to reload completely nullified the time gained by firing a large number of shots simultaneously. Mechanical volley fire had been obtained, but no real increase in the average rate of fire.

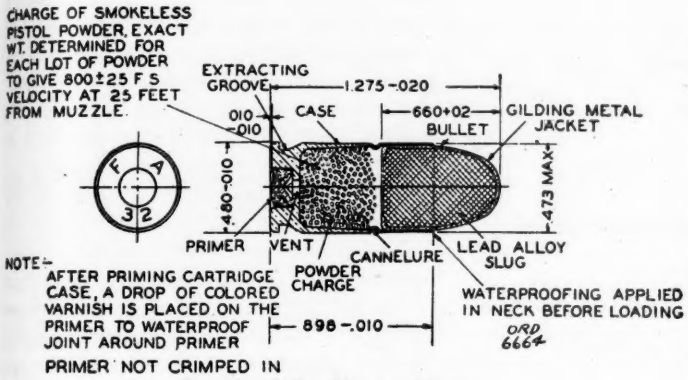
In 1860, the self-contained cartridge with bullet, powder and cap in one case was invented. The coffee grinder used in the Civil War had a hopper which fed the cartridges into a single barrel, from which the bullets were fired and the cases ejected one after the other. The Gatling gun, invented about the same time, also utilized the hopper system of loading, but had a number of barrels which were fired in rotation. It was used in the Spanish-American War. At the battle of San Juan Hill, a battery of three guns, commanded by "Gatling Gun" Parker, fired 18,000 rounds.

Napoleon III directed an officer named Reffye to produce a small gun which would be effective between 1,500 and 2,000 yards and fill the gap between rifles and artillery. The result was the first "mitrailleuse," which means a "hail thrower." The gun had 25 barrels in a single tube, with a breechblock holding 25 cartridges, which were loaded simultaneously and fired successively by a crank. The rate of fire was about 125 rounds per minute.

A Swedish inventor produced between 1870 and 1880 the Nordenfeld gun, with a breech mechanism operated by a lever which loaded each cartridge, fired and ejected

it in one forward and one backward movement. The arrangement of barrels was similar to that in the organ gun and the cartridges were fed from a magazine by gravity.

Up to this time, although the self-contained cartridge was in existence, although some of the guns used a single barrel through which the bullets were fired successively, and although at least one gun used a mechanism which loaded, fired and ejected the cartridge in one forward and one backward movement, no gun had yet been devised



Cartridge, ball, caliber .45, M1911.

in which all of these devices were combined. The one gun which most nearly approached this idea used multiple barrels and all of them were extremely heavy, more nearly resembling artillery than what one thinks of today as machine guns.

Modern Automatic Weapons

Hiram Stevens Maxim, an American, was an inventor of electrical devices. While travelling in Europe he was advised that there was more money in the invention of weapons. Maxim was familiar with the efforts of other inventors to develop new machines of different kinds, and he set to work on the problem of an automatic gun. In the 17th century, a Frenchman, Papin, had experimented with an engine operated by a series of explosions of powder charges. Adapting this principle to gunnery, Maxim in 1884 designed the first real machine gun, operating on the recoil principle. The first model was nearly perfect, had a cyclic rate of 600 to 700 shots a minute, and a water jacket for cooling. Practically all recoil-operated guns today are direct descendants of the original Maxim gun. The British Maxim, which is called a Vickers, and the German Maxim are examples, the former having a comparatively light mount, the latter a heavy one. Both guns are simple in operation. The explosion of the powder charge causes a slight recoil of the barrel, which sets the mechanism in motion to the rear and ejects the empty cartridge case. A large spring sends the mechanism forward, carrying a new cartridge into the chamber and firing it. An ingenious method of locking the barrel in place while the cartridge is fired is an essential part of the gun. The rearward and forward motions are continued indefinitely as long as the trigger is held.

Shortly after Maxim, who was later knighted by the English Government, developed his gun, another inventor, Hotchkiss, developed a gas-operated, air-cooled gun, which is the parent of all gas-operated machine guns. This gun was used by the French and by some American and British divisions during the World War. It is very simple mechanically and can operate with a number of its movable parts missing. Those who have used it swear by it.

Dating from the invention of these two guns, all small caliber machine guns have been comparatively light. The idea of transporting them similarly to artillery disappeared and a separate and distinct weapon, having its own special characteristics and missions, had come to stay.

These two types of machine gun, recoil-operated and gas-operated, brought out many variations. In the United States, Mr. Browning, of Utah, invented a gun called the Colt, which was issued to our army. It is gas-operated, air-cooled, and belt-fed. It has a slow cyclic rate. We next got the Benét-Mercié gun, invented by an American Ordnance officer. It is gas-operated, air-cooled and clip-fed. It acquired, justly or unjustly, a bad reputation in the Columbus raid. Colonel Lewis, another American Ordnance officer, invented the Lewis gun, which is gas-operated, water- or air-cooled, and drum-fed. It was used by the British in the World War as a light gun, especially in aviation. It is too flimsy for pack. At the beginning of the World War, our Army had some or all of these guns, as well as some Maxims.

Of the modern foreign guns, the Danish Madsen is very similar to the Benét-Mercié, but sturdier. It depends for cooling largely on changing barrels, a barrel extension of special steel permitting handling when the barrel is hot. The French Chauchat is recoil-operated and air-cooled. It is very light and inexpensive to manufacture. It was used by the French and Americans during

Automatic Pistol.

the World War, but is not very efficient and is being replaced in the French Army. The Austrian Schwartzlose is very simple in design, but the necessary adjustments are so fine that it cannot be manufactured in quantity. It is the only machine gun in which the bolt is not locked during actual firing, it oils itself in operation, and one principal spring operates the entire mechanism. The Austrian Dreyse combines some of the features of the Maxim and of our present Browning guns.

The same Mr. Browning who invented the Colt machine gun is the inventor of all three of our present guns, light, heavy and caliber .50. The submachine gun was

Submachine Gun.

invented by Colonel Thompson, an American Ordnance officer.

Some authorities make a distinction between automatic rifles, machine rifles and machine guns. The infantry still has the Browning automatic rifle. The cavalry has just discarded the Browning machine rifle in favor of the Browning light machine gun. The distinction is based principally on the method of cooling, weight, and consequent ability to use sustained automatic fire. The classification is unimportant. What is important is to know the different characteristics of our various automatic arms, because the proper employment of any weapon is that which takes advantage of its favorable characteristics and counteracts its unfavorable ones.

Ammunition

The history of ammunition is a story in itself. Suffice it to say that it was not until about the time of the Spanish-American War that smokeless powder was developed, and that the World War led to the development of tracer, armor-piercing and boat-tail small caliber bullets.

Caliber .45 Ammunition

Caliber .45 ammunition is used in the automatic pistol and the sub-machine gun. The bullet has a gilding metal jacket, a round nose, and a flat base. It weighs 230 grains. It is propelled by a powder charge of five grains. It has a muzzle velocity of about 800 feet per second, a maximum range of 1,600 yards, and a continuous danger space of 300 yards. Because of its weight it has great stopping power against personnel at close range. No tracer nor armor-piercing types of this caliber ammunition are manufactured.

Pistol

At the time of the Spanish-American War the cavalry was equipped with the Colt caliber .38 double action revolver. After the Philippine insurrection there was a great demand for a larger caliber weapon, due to the fact that the caliber .38 had not sufficient hitting power to stop a fanatical Moro bent on going to his Mohammedan heaven as a reward for killing a Christian with his bolo. The result of this demand was a return to the caliber .45 in the form of a double action Colt revolver (Model 1909). This weapon was soon superseded by the caliber .45 Colt automatic pistol (Model 1911). The only changes in the original model of this pistol have been the widening of the front sight, the cutting back of the trigger and receiver and the knurling of the trigger to allow a man with a small hand to grip the pistol more conveniently, the lengthening of the grip safety to prevent pinching of the skin of the hand in firing, and the enlarging and knurling of the mainspring housing to counteract the tendency to shoot low.

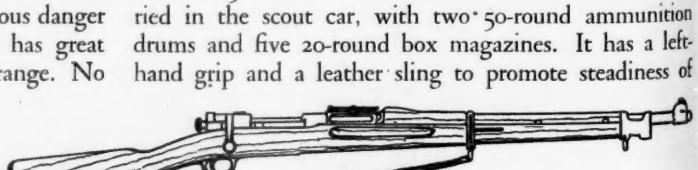
The present automatic pistol is recoil-operated. It is semi-automatic and cannot be used for automatic fire. It is fed by a magazine containing seven cartridges. It weighs, with loaded magazine inserted, about three pounds. It is carried, secured to the firer's body by a lanyard, in a holster hooked to the waist belt, with two extra magazines, containing seven cartridges each. The pistol must be kept cleaned and oiled to function satisfactorily. Care must be taken not to allow the lips of the magazine to become bent, as this is the most frequent cause of stoppages.

Because of the short barrel of the pistol, its relatively heavy weight, and the consequent difficulty in holding, its maximum usable range may be taken as about 25 yards. Its maximum usable rate of fire, including time to change magazines, is about 21 shots (total amount of ammunition with the weapon) per minute.

Since the abolition of the saber, the pistol is the only weapon available for mounted action. It is used, dismounted, for individual defense and in the final stages of the dismounted assault. It may be used in lieu of other available weapons against very low-flying airplanes, but the effect of its fire against such targets is not great.

Submachine Gun

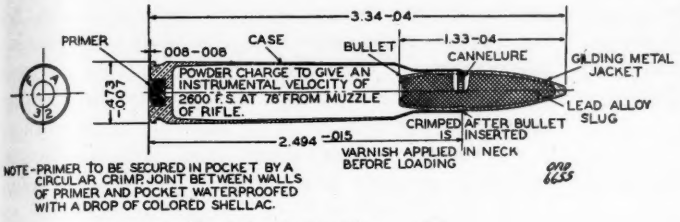
The submachine gun is recoil-operated. It can be used for either semi-automatic or automatic fire, the former being much more accurate. The gun weighs about 10 pounds without ammunition and about 15 pounds with a loaded 50-round ammunition drum attached. It is carried in the scout car, with two 50-round ammunition drums and five 20-round box magazines. It has a left-hand grip and a leather sling to promote steadiness of



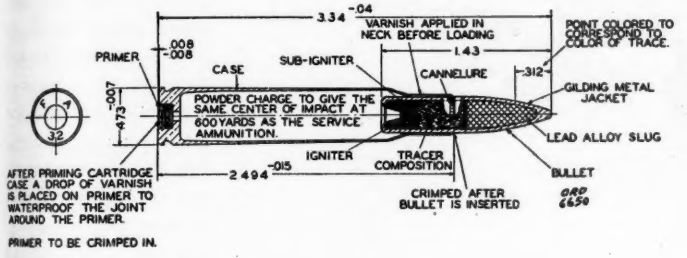
Rifle.

aim. It must be kept cleaned and oiled to insure satisfactory operation.

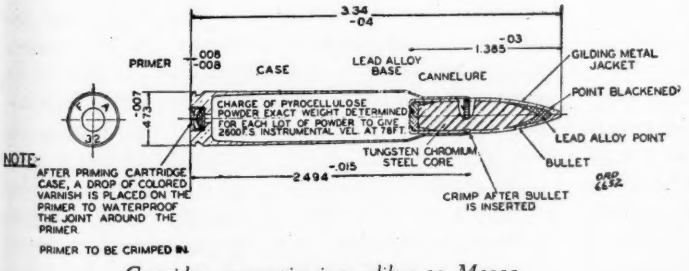
Its maximum usable range is about 300 yards (one-sixth mile). Its very large rear sight aperture precludes very accurate aiming of single shots, and its rapid climb prevents very accurate automatic fire. It has a very high cyclic rate of fire, but its usable rate may be taken as about 40 rounds per minute in semi-automatic fire and 100 rounds per minute in automatic fire, including the time necessary to change drums or magazines.


3.34-04
PRIMER
CASE
.008-.008
BULLET
1.33-04
CANNELURE
GILDING METAL JACKET
POWDER CHARGE TO GIVE AN INSTRUMENTAL VELOCITY OF 2600 F.S. AT 78 FROM MUZZLE OF RIFLE.
.473 -.007
LEAD ALLOY SLUG
CRIMPED AFTER BULLET IS INSERTED
2.494 -.015
VARNISH APPLIED IN NECK BEFORE LOADING
NOTE-PRIMER TO BE SECURED IN POCKET BY A CIRCULAR CRIMP JOINT BETWEEN WALLS OF PRIMER AND POCKET WATERPROOFED WITH A DROP OF COLORED SHELLAC.

Cartridge, ball, caliber .30, M1.


3.34 -.04
VARNISH APPLIED IN NECK BEFORE LOADING
POINT COLORED TO CORRESPOND TO COLOR OF TRACE.
PRIMER
.008 -.008
CASE
SUB-IGNITER
1.43
CANNELURE
.312
GILDING METAL JACKET
POWDER CHARGE TO GIVE THE SAME CENTER OF IMPACT AT 600 YARDS AS THE SERVICE AMMUNITION.
.473 -.007
LEAD ALLOY SLUG
IGNITER
TRACER COMPOSITION
BULLET
AFTER PRIMING CARTRIDGE CASE A DROP OF VARNISH IS PLACED ON PRIMER TO WATERPROOF THE JOINT AROUND THE PRIMER.
2.494 -.015
CRIMPED AFTER BULLET IS INSERTED
PRIMER TO BE CRIMPED IN.

Cartridge, tracer, caliber .30, M1.


3.34 -.04
PRIMER
.008 -.008
CASE
LEAD ALLOY BASE
1.385 -.03
CANNELURE
GILDING METAL JACKET
POINT BLACKENED
CHARGE OF PYROCELLULOSE POWDER EXACT WEIGHT DETERMINED FOR EACH LOT OF POWDER TO GIVE 2600 F.S. INSTRUMENTAL VEL. AT 78 FT.
.473 -.007
LEAD ALLOY POINT
TUNGSTEN CHROMIUM STEEL CORE
BULLET
NOTE-
AFTER PRIMING CARTRIDGE CASE, A DROP OF COLORED VARNISH IS PLACED ON THE PRIMER TO WATERPROOF THE JOINT AROUND THE PRIMER
2.494 -.015
CRIMP AFTER BULLET IS INSERTED
PRIMER TO BE CRIMPED IN.

Cartridge, armor piercing, caliber .30, M1922.

The gun has great stopping power against personnel at close ranges. It depends for its effect more on volume than on accuracy of fire. It is a special purpose weapon for close defense of stalled or stationary scout cars and their crews, and for fire from moving scout cars on personnel at very close ranges. It may also be used against low-flying airplanes with fair effect.

Caliber .30 Ammunition

Caliber .30 ammunition is used in the rifle and machine gun. It is manufactured in three service types: ball, tracer, and armor-piercing.

Ball, M1.—The bullet has a gilding metal jacket, a pointed nose, and a tapered base (boat-tail). It weighs 172 grains as against 150 grains for 1906 caliber .30 ammunition. Its powder charge is 50 grains. It has a muzzle velocity of about 2,650 feet per second and a maximum range of about 5,500 yards, as opposed to less than 3,500 yards for 1906 ammunition. It is more accurate than the latter, fouls the barrel less, is much less affected by drift and wind, and has less flash and considerably greater remaining velocity at distant ranges. It has a continuous danger space of about 750 yards, about the same as the 1906 ammunition. It has little or no effect against matériel.

Tracer, M1.—The bullet has a pointed nose and a flat base and weighs 150 grains. It has a gilding metal jacket and a tracer mixture, which is ignited by the propellent powder when the cartridge is fired, and which burns with a red flame. The bullet is painted red for easy identification. The propellent charge weighs 50 grains. The length of trace is from 1,000 to 1,200 yards for different lots. The accuracy is about the same as that of the M1 caliber .30 ball bullet up to 600 yards, but beyond this the tracer bullet has a higher trajectory than the ball. Tracer is used for range estimation, target designation and correction of fire.

Armor-piercing, M1922.—The bullet has a pointed nose and a flat base. It weighs 170 grains. It has a gilding metal jacket, a steel core and a lead filler at point and base. The powder charge is 50 grains. The bullet point is painted black for easy identification. Its maximum range is about 4,400 yards and its accuracy compares favorably with that of 1906 caliber .30 ball ammunition.

Rifle

At the time of the Spanish-American War our cavalry had the Krag-Jorgenson carbine, or short-barreled rifle, which was soon replaced by the U. S. Magazine Rifle (Springfield), of which the Model 1903 has needed only slight improvement since its introduction. The latest model stock is one-half inch longer than the original and has a higher comb and a pistol grip. The front sight cover is an addition since the rifle was adopted. Some foreign countries have carbines, but since 1903 we have contended that our branch should not be outranged by infantry and have held to the rifle.

The rifle is a bolt-operated shoulder weapon. It, and the 37-mm gun, are the only weapons used in the cavalry which are not either semi-automatic or automatic. The rifle is fed by a magazine holding five cartridges in a clip, of which the rifleman carries 18 (or 90 rounds) in his belt. It weighs, loaded, with leather arm sling provided for steadiness in firing, about nine pounds. It is carried, mounted, in a rifle scabbard attached to the horse's sad-

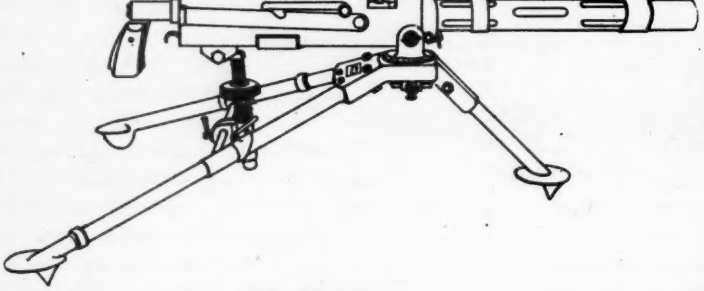
dle, and dismounted in the soldier's hand or on his shoulder.

Because of the difficulty of holding and aiming and the effect of wind at longer ranges, the maximum usable range of the rifle may be taken at about 600 yards (one-third mile), which is the longest range at which target practice is held. Its usable rate of fire, including reloading, is about seven to ten shots per minute.

The rifle is the basic cavalry weapon, issued to all enlisted men not part of the gun crews of machine guns and 37-mm guns, for use in all dismounted combat. Its volume of fire is not great. It is used principally against enemy individuals, as opposed to mass targets. It has fair effect against low-flying airplanes and when loaded with armor-piercing ammunition, against armored vehicles at close range.

Light Machine Gun

The light machine gun is a recoil-operated, air-cooled, belt-fed automatic weapon, mounted on a tripod which has a single leg to the front and two legs to the rear. The gun and tripod, habitually carried together, weigh about 42 pounds. They are carried with spare barrel and 1,050 rounds of ammunition (three chests of two belts of 150 rounds each and one 150-round belt, with spare parts, in a fourth chest); on a pack horse. The total load with saddle and hangers, is about 195 pounds. The pack horse, so loaded, can keep up with cavalry at all normal gaits, but the pack horse and driver are somewhat less mobile and more vulnerable than a single mounted man. The gun can go into action from pack in from 10 to 20 seconds, depending on the training of the crew. Dismounted, the gunner carries the gun and tripod and the assistant gunner 600 rounds of ammunition, weighing about 45 pounds, or each man carries a chest of ammunition and assists the other in carrying the gun. This weight results in some loss of mobility, but it is accepted because of the increased fire power of the light machine gun over the machine rifle.



Light Machine Gun.

The gun has practically the same mechanism as the heavy machine gun and requires the same knowledge on the part of the crew to keep it in action. Its care and cleaning are equally important. The lack of an efficient cooling system is the principal characteristic of the gun which distinguishes it from the heavy machine gun. It could fire just as long as the latter if it did not overheat, which it does after 800 rounds continuous automatic fire. Single shots, fired at a medium rate of about 75 a minute, do not overheat the gun, and this is the usual type of fire, although automatic fire may be used in emergencies. Single shots do not reveal the position of the gun to the enemy. The gun has considerable flash, especially with automatic fire. An effort is being made to correct this by a longer barrel. Overhead fire is dangerous with old barrels and should be used only when terrain is favorable. The rear sight, taken from the old machine rifle, is a shorter distance from the front sight than on the former weapon, and its accuracy diminishes rapidly at long range.

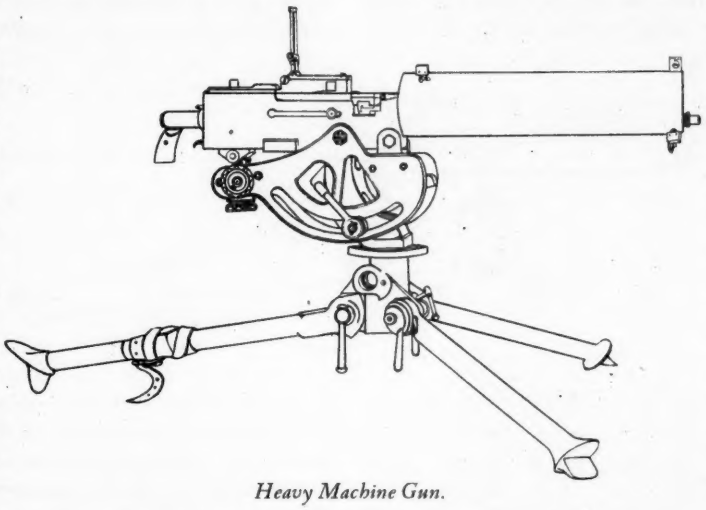
The tripod has a direction dial, an elevating handwheel with an angle of fire of about 20 degrees, and a traversing mechanism with an angle of fire of about 50 degrees. All three devices are graduated in mils, permitting considerable accuracy of fire. The gun can be freed for rapid traverse on surprise targets and moving targets. For antiaircraft fire, a support, such as an ammunition chest, or the assistant gunner's knees, must be used. The gun and tripod present a small target, especially if the assistant gunner does not take position close beside the gun. The gun is only about a foot above the ground, so that it should be sited on high ground and in low cover. This is the only way that direct fire can be used without an additional support or without shooting out a part of the cover, which tends to reveal the position of the gun to the enemy. A form of indirect fire, in which the assistant gunner watches the effect of fire and calls corrections to the gunner, will obviate this, but is slower and less accurate than direct fire. The stability of the tripod makes indirect fire possible, but when a cone of fire is desired the heavy machine gun is preferable. The stable mount permits laying in daylight for fire at night.

The maximum usable range of the gun may be taken as about 1,200 yards (about two-thirds mile), the limit of tracer ammunition. The comparatively short usable range is due in part to the short barrel, which has a muzzle velocity of about 200 feet per second slower than the heavy machine-gun barrel. The maximum usable range will vary considerably, depending on conditions, such as visibility, strike, and whether or not automatic fire is attempted.

The gun is a close supporting and accompanying weapon assigned to rifle troops and to scout cars, for use against enemy personnel, airplanes, and armored vehicles. Its characteristics lie between those of the machine rifle and the heavy machine gun. It can take over some of the missions of both.

While an improvement over the machine rifle, the present light machine gun is still not the most desirable weapon for its purpose. It has such obvious disadvantages

as excessive flash, lack of mechanical adjustment for single shot fire, inaccurate sight at long ranges, no ammunition in the hands of the gunner, and excessive weight. The Cavalry Board has developed and recommended a longer barrel, only a few ounces heavier than the present barrel, and a single shot lever, which when set does not permit of automatic fire. The former largely eliminates flash and the latter prevents the rapid overheating of the gun and results in better scores with single shot fire by the average soldier. A properly graduated sight should be made, which should also be graduated for firing with M1 ammunition. The Cavalry Board is testing a small web pouch to carry 40 rounds of ammunition on the gunner and possibly the same amount on the assistant gunner, which will be independent of that carried in the ammunition chests. The weight can only be reduced by redesign of the gun, and it is interesting to note that practically all of the present weapons which exist are in the hands of troops, and that the Ordnance Department has a new gun similar in every way to the present one, but in which all the parts and, consequently, the whole weapon are considerably lighter, between 25 and 30 pounds for the new gun and tripod, instead of about 42 pounds for the present equipment. The Ordnance Department is also continually testing guns similar to the Browning and it is believed has several others which may be superior to it. The present gun was designed as a tank gun and was adopted by the cavalry, which developed a new tripod for it, because it was immediately available and is superior to the machine rifle. The Cavalry Board is working on a vehicular mount for the gun to be used on cargo trucks.



Heavy Machine Gun.

Heavy Machine Gun

The heavy machine gun is practically the same as the light machine gun, but has a longer barrel, a water jacket, and a different tripod. The gun with water jacket filled weighs about 40 pounds, the tripod about 50 pounds. These with one 250-round box of ammunition, an extra barrel and spare parts (a complete combat unit) are carried on a pack horse. Other pack horses carry six boxes each, or 1,500 rounds of ammunition. A water box may be substituted for an ammunition box. The gun in pack is as mobile as a light machine gun, but because of the ammunition horses the squad is more vulnerable. Dismounted, the gun has about the same mobility as the light gun, since one man carries the gun, one the tripod and another the ammunition. The gun can go into action in about the same time as the light machine gun.

The same mechanical training as for the light gun, plus a more extensive and higher degree of training in technique of fire, is required of heavy machine gunners. The gun, being water-cooled, is capable of continuous automatic fire, the only one of our three machine guns which has this feature.

The cone of fire gives a continuous danger space up to about 750 yards, which is utilized in bands of fire. With one-half the beaten zone added to the continuous danger space, a band of fire is about 800 yards long. The pattern on the ground, which is long and narrow, makes fire against the heads of troops in column, or the flanks of troops in line, the most effective. In order to prevent the gun jumping off the target, the usual type of fire is in short bursts of from three to seven shots each, with relaying between bursts. When preparation has been made to steady the tripod by anchoring it to the ground with sand bags, and in emergencies, such as resisting an attack on a final protective line, or firing on mass or fleeting targets, no hesitation is felt in using continuous automatic fire, without bursts. The characteristic noise of automatic fire is both an advantage from the point of view of morale and a disadvantage in giving away the position of the gun.

The tripod, which is considerably heavier than that of the light machine gun, has two front legs and one to the rear on which the gunner may sit. As far as visibility is concerned, the gun and tripod occupy little more space than the light machine gun and tripod. The legs of the tripod being adjustable, the gun has a command of a little over a foot in low position to about two and one-half feet in high position. Low brush and high grass are, therefore, not a great disadvantage. The tripod has a cradle with long slots, which permit movements in elevation of about 70 degrees. It has a traversing dial graduated to 6,400 mils, with minimum readings of 20 mils. It has both elevating and traversing handwheels, which control, within the cradle, slow motion with one-mil clicks. The traversing handwheel makes tapping unnecessary, although the gun can still be freed for all-around traverse. The gun can be fired accurately at night, is capable of both direct and indirect laying, can be fired over the heads of friendly troops, both mounted and dismounted, and can be used in antiaircraft fire, in which

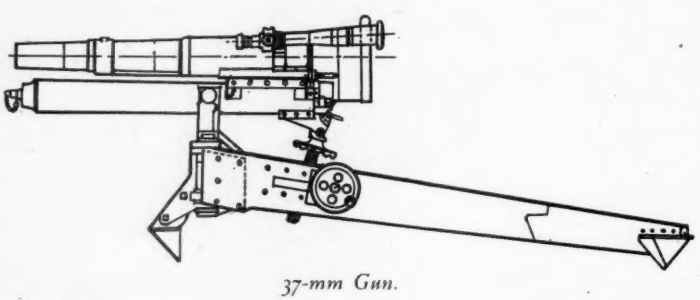
its cone of fire is of great advantage.

Maximum usable range in direct fire is about 1,800 yards (one mile), but this may be increased by the indirect method of an observer with field glasses ordering the corrections in firing data to the gunner for a target beyond his vision. At still longer ranges where the cone of fire of the gun, or preferably several guns, is employed, area targets can be hit readily. With 1906 ammunition this fire may be used up to about 2,500 yards. Since the size of the beaten zone at 4,000 yards with M1 ammunition is about the same as that at 2,500 yards with 1906 ammunition, 4,000 yards may be taken as the maximum usable range in indirect fire with M1 ammunition.

The heavy machine gun, assigned to each regiment, is the principal general supporting small arm for cavalry. It is an all-purpose gun, being capable, with proper ammunition, of all types of fire of which all the other weapons are capable, in addition to having the advantage of sustained automatic fire, which the others lack.

Caliber .50 Ammunition

Caliber .50 ammunition is used in the caliber .50 machine gun. It comes in three types: ball, tracer, and armor-piercing.



37-mm Gun.

Ball, M1.—The bullet has a gilding metal jacket, a pointed nose, a rolled steel core, and a tapered base. It has a muzzle velocity of 2,400 feet per second and a maximum range of about 7,500 yards. Because of its stream-line principle it is very accurate, although not as accurate as any of the caliber .30 types.

Tracer, M1.—The bullet has a pointed nose and a flat base. It has a gilding metal jacket, a lead tip, and a tracer mixture, which is ignited by the propellent charge when the cartridge is fired, and which burns with a red flame. The length of trace is about 2,000 yards. The outside of the tips of the bullets are painted red for easy identification. The bullet is used as an aid in directing fire on moving targets.

Armor-piercing, M1.—The bullet is similar in every respect to the ball M1, except as to the core. The point is painted black for easy identification.

Caliber .50 Machine Gun

The caliber .50 machine gun is an air-cooled, recoil-operated, metallic link belt-fed weapon of large caliber, mounted on a tripod. The gun weighs about 75 pounds. The tripod weighs about 40 pounds and each round of ammunition about one-quarter pound. In pack, one horse carries the gun, tripod, spare parts, and 40 rounds of ammunition. One ammunition pack horse can carry 400 rounds of caliber .50 ammunition as against 1,500 rounds of caliber .30. The ammunition hangers for caliber .50 and caliber .30 are interchangeable. Dismounted, it takes three men to mount the gun and tripod, one man the barrel, one the receiver, and one the tripod. An ammunition carrier, dismounted, can carry about 200 rounds. The gun is therefore less mobile than either of the caliber .30 guns, but this is not an especially unfavorable characteristic, as the gun is designed to fire principally on rapidly moving targets, upon which a change of position of the gun would have little effect. The gun can go into action from pack in from 15 to 25 seconds, depending on the training of the crew.

The gun requires a high degree of mechanical training for its care and operation. Being air-cooled it is subject to overheating, and for that reason must be used with single shots. Tests have shown that better scores can be obtained firing single shots at the rate of 40 to 80 per minute than with automatic fire. The large caliber bullet is wasted against personnel, and, while the tripod can be adjusted for antiaircraft firing at low angles, the dispersion resulting from the use of automatic fire makes the caliber .50 gun less valuable than the caliber .30 for this purpose, except when used on a vehicular mount. The gun has the characteristic flash of most air-cooled automatic weapons.

The tripod is of a modern compact type, similar to that of the light machine gun, with accurate elevating and traversing devices. It occupies a larger space on the ground than that of the caliber .30 heavy gun, but this is not a great disadvantage for its intended use.

The gun has an extreme range of about 7,500 yards with M1 ammunition and is very accurate up to about 2,000 yards (the extreme range of caliber .50 tracer), which is the usual limit of visibility in direct laying. The latter may be taken as the maximum usable range.

The gun is a special purpose weapon, the characteristics of which fit it especially for fire against fast-moving armored vehicles, for which purpose, except in emergencies, it should be reserved. In emergencies it may assist or take the place of the 37-mm gun in antimachine-gun fire.

This weapon has, of course, come to the cavalry to stay. There are already improvements in the original model. A telescopic sight with a tracking arrow and a mil scale in the field of view, which will make firing at moving targets more accurate, has been recommended by the Cavalry Board and manufacture has been started by the Ordnance Department. Another improvement is a bolt handle with a leverage arrangement which reduces the force required by the gunner in operating the bolt.

37-mm Ammunition

This ammunition is used in the 37-mm gun. It is

manufactured for ground firing in only one service type, high explosive shell.

The shell has a pointed nose. It is made of steel with a rotating band to engage the rifling of the gun and insure rotation of the shell in the air. It contains a bursting charge of .06 pound of TNT, fired on impact by the action of a firing pin in the shell which is cocked in firing. The propelling charge weighs about 500 grains. The bullet is painted yellow for identification and the cartridges should be handled with care. The complete round weighs about one and one-half pounds. The muzzle velocity is 1,276 feet per second, the maximum range 4,500 yards, and the effective radius of the shell fragments on impact is about ten yards. It is this last characteristic which makes the shell such a valuable anti-machine-gun agent, since a hit anywhere within ten yards of the machine gun will probably put it out of action. This same characteristic is very valuable against enemy led horses and other massed targets. It has a fairly satisfactory armor-piercing performance against thin plate.

37-mm Gun

The 37-mm gun is a French weapon, adopted intact from the French by our infantry during the World War, and subsequently modified by our cavalry so that it can be carried in pack.

The gun is in effect a piece of small artillery. It has no automatic features. The gun weighs nearly 90 pounds, its carriage nearly 60 pounds, and a box of 16 rounds of ammunition about 30 pounds. The gun and carriage are carried in pack on one horse, but it is the heaviest cavalry pack load. An interesting feature of the pack is the balancing of loads by leverage and weight, as well as by weight alone. The ammunition pack horse carries 64 rounds. The gun can go into action from pack, if anything, more quickly than any of the machine guns. Dismounted, it can be carried fairly comfortably as a three-man load. The gun and recoil mechanism can be carried by one man.

The gun has two sights, one telescopic, the other of the quadrant type, both of which are very accurate. The carriage has telescopic legs for ease in packing on a horse and has accurate elevating and traversing devices. Direct, overhead, and indirect laying (position defilade) are all practicable. The maximum rate of fire is about 25 shots per minute, the maximum usable range about 2,000 yards.

The gun is a special purpose weapon for use principally against enemy machine guns and massed targets, especially led horses. In emergencies, or in the absence of caliber .50 machine guns, it may be used against enemy armored vehicles, although its low velocity, its comparatively slow rate of fire, and the relatively unimpressive armor-piercing qualities of its ammunition do not particularly fit it for this use.

Heavy Machine Gun and 37-mm Gun

These two weapons are the only cavalry weapons, except the pistol and possibly the rifle, with which we are likely to be armed in the near future, which were in use as recently as the World War. They are both excellent weapons which have proven themselves in actual combat. Since the adoption of the all-purpose tripods for the heavy machine guns, no further improvements are known to be immediately contemplated in them.

Their place in organization has not been definitely settled, but it is almost certain that the heavy machine gun troop in each regiment will be retained. Heavy machine gun units in each squadron have been tried out in the 26th Cavalry and are no doubt desirable, but it is doubtful if we could obtain the additional men to man them, without seriously depleting our rifle units. The place of the 37-mm gun is not so certain. It is believed that it should be retained, due to its superior antimachine-gun value, but there is a possibility that it may be dropped due to the already large number of different weapons in the regiment. In this connection the suggestion has been advanced that either the light machine gun or the heavy machine gun should be abandoned in favor of the other. The characteristics of the heavy machine gun do not fit it as a close supporting weapon and the characteristics of the light machine gun do not fit it as a general supporting weapon.

Mortars

The only additional weapon of which there is a probability of assignment to the horse regiment of cavalry is the infantry mortar. The cavalry regiment at present has no curved trajectory weapon and would be at a serious disadvantage in very mountainous terrain against an opposing force having such a weapon. The enemy could throw projectiles from defiladed positions into our force without receiving any fire in return. The only way to dislodge him would be by a flanking or turning movement, which might not always be practicable. The Stokes-Brandt mortar, an improvement on the Stokes mortar used during the World War, has a usable range of about 3,000 yards, is very accurate, and has a large radius of shell burst. Against enemy establishments, command posts, reserves, and especially led horses, it would prove very destructive. It can also be used as a smoke-throwing weapon. The gun can be carried in pack, but a single ammunition pack horse can carry only 14 rounds. For this reason the Cavalry Board recommended against its adoption. This recommendation was made, however, before the introduction of cargo trucks in the cavalry, which now permit of a large ammunition supply to within fairly close distance of mortar positions, and reopens the question of the possible adoption of these weapons. If adopted, they might very well be associated in organization with the 37-mm gun, one of each type of weapon constituting a howitzer squad similar to that of the infantry, or it might replace the 37-mm gun.

Fitum

By Ingram Cary

IT IS told of General Nathan Bedford Forrest that once when a somewhat lethargic subordinate wrote him asking for instructions he flew into a passion and seizing a pen scrawled in reply one word. I have selected that word as an appropriate title for this story.

Under present-day tactical doctrines and methods, which involve wide envelopments, rapid movements and fragmentary orders of telegraphic brevity, commanders of subordinate units will often be compelled to meet situations that are not covered by the orders under which they are acting; and sometimes the decision indicated by actual circumstances will be at variance with the mission assigned. For example: during the recent Second Army Maneuvers the commander of a motorized infantry battalion operating with a larger force received by radio an order consisting of the single word "withdraw," when he believed the situation called for offensive action. Here was a problem: on the one hand the order appeared incomplete, and on the other he felt sure that he should attack. However he played safe by moving several miles to the rear and waiting for orders.

Professional knowledge can be acquired at the service schools and in other ways, but the qualities of initiative, leadership and moral courage, now more essential in a commander than ever before, are gained mainly through self-development. Without doubt reflection upon historical incidents that illustrate a display of these qualities stimulates their development. The account which follows is presented with this purpose in view.

By the end of 1902 the Philippine Insurrection had been quelled and a civil government set up. Nevertheless some irreconcilable Filipino leaders were still holding out against American rule. Among them was one General San Miguel, a brave and energetic leader, who at the head of several hundred men had been operating with some success in the more sparsely settled and wilder parts of Bulacan and Rizal Provinces. Under American officers various flying columns of native infantry, scouts and constabulary, each one company strong, were in the field trying to locate San Miguel and destroy his force.

Company A, 1st Battalion, P.C., formed one of these columns under the command of Captain Cochrane. This company, numbering three officers and 145 men had been constantly in the field in Luzon and the southern islands for more than a year. It had never been surprised or defeated, had never abandoned a dead or wounded man, and never lost a gun. Some of the noncommissioned officers had served in the Spanish Army; a majority of them and many of the privates had marched under General Funston in the expedition that captured Aguinaldo. Such then was the outfit that trudged into Montalban on the Mariquina River on the afternoon of February 6, 1902, and bivouacked in the plaza.

The Presidente had his ears cut off.

The evening meal had been eaten and the company was just settling down for the night when a mounted messenger rode in from the provincial capitol at Pasig, some eighteen miles to the south. He handed Captain Cochrane the following message, dated February 6th:

> San Miguel reported in vicinity of Bosoboso. Costello's Company of Scouts is ordered to move across mountains from Mariquina and should reach Bosoboso by daybreak tomorrow. A mixed force of Scouts and Constabulary from Pasig moving via Antipolo should arrive Bosoboso about the same time. Your Company will proceed at once up Mariquina River Valley, strike Bosoboso from the North and cooperate with other columns.
>
> Allen
> Brig. General, Comdg.

Company A marched within half an hour. The Mariquina River was in flood, and above Montalban it flowed through a deep gorge that lacked a trail. Cochrane was therefore obliged to leave the valley and find a way over the mountains. He had no map. The map used to illustrate this narrative was not made until ten years later.

With only short halts, the march continued throughout the night and until late in the afternoon of the following day at which time the company approached Bosoboso. When Cochrane sighted the town he halted his company in a concealed position and then, with two scouts, entered the town via the ravine at its northwest corner. On the outskirts he saw some of the inhabitants digging pits under their houses. They told him the pits were for protection against rifle fire.

In the Town Hall Cochrane found the Presidente (Mayor) and several other municipal officials. The Presidente's head was bound up, his face disfigured, and he seemed to be in pain. After sending one of his scouts back to bring up the company, Cochrane questioned the Presidente and obtained the following information:

General San Miguel with a large, well-armed force had arrived at Bosoboso the day before. By his order, the Presidente was beaten and had his ears cut off as punishment for accepting office under the American Civil Government. After assessing the town two days rations for his command, San Miguel crossed the river and entrenched in a strong position covering the ford and the trail leading to the East.

That morning (February 7th) a mixed company of native foot troops with American officers had marched into Bosoboso. The captain in command inquired about Captain Cochrane's column, evidently expecting to meet him at Bosoboso, but after waiting about an hour withdrew toward Antipolo. According to the Presidente, this captain knew that San Miguel was entrenched nearby because he went up into the church tower and looked at

the Insurgent position, stating upon descending that he could see the Filipino flag flying and also some sentinels posted on the west side of the river.

Cochrane asked the Presidente why this American captain left without attacking San Miguel or waiting longer at the town. The Presidente replied that the captain said his men were almost barefoot and couldn't march in the mountains off the trail. The Presidente also said something about *Natatakut,* which in Tagalog means being afraid, but would not repeat or elucidate this remark.

When questioned as to the exact number of the Insurgents, the Presidente answered, *"Nakoh, Marame!"* (Oh my mother! Many!) adding that they had some rifles like the ones carried by the Americans.

No other American columns had appeared.

Cochrane's first sergeant learned from one of the town officials that he had overheard San Miguel's officers talking about reinforcements and saying that their general was going to take the offensive soon and destroy every American column he could find.

Cochrane climbed the church tower and studied the hostile position across the valley. From the shelf on which the town was located to the river, the ground was under rice cultivation. The Insurgent flag and parts of the intrenchments were in view; also small groups of Insurgents evidently in observation, on the near side of the river.

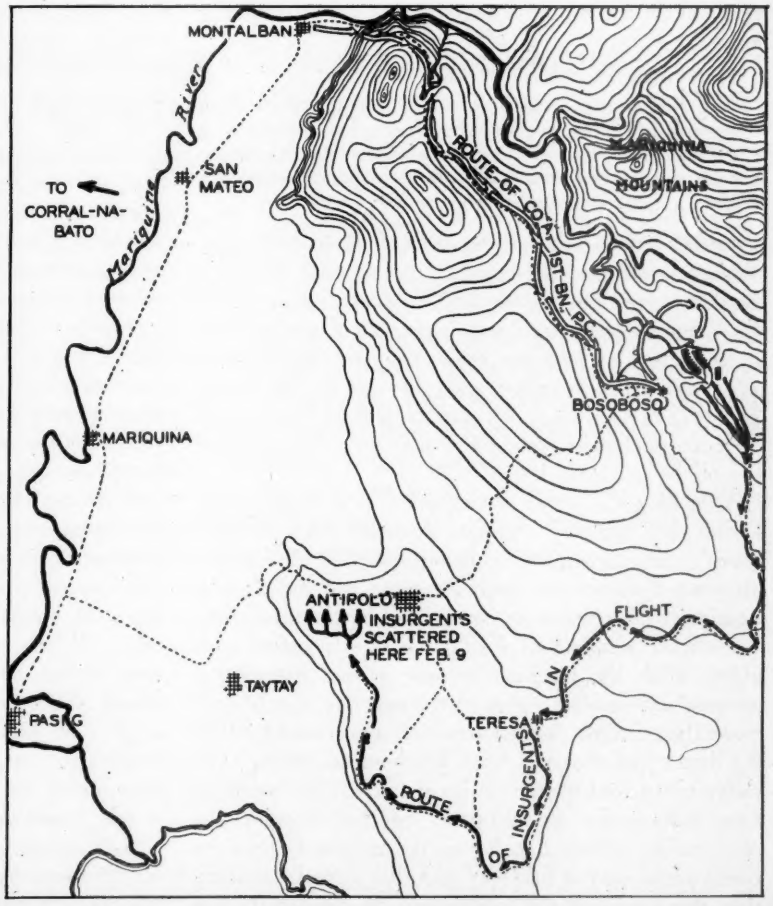
Cochrane descended from the tower as his company marched in. He could see that the men were almost exhausted. Night was falling and with it came the rain. A decision had to be made immediately, but what should it be? The captain wondered. He could not account for the action of the column commander who had entered the town that morning and then withdrawn. Perhaps this captain had come to the conclusion that the insurgents had been reinforced and that he had missed contact with both Cochrane's company and Costello's. In that event he might have decided that not only was an attack out of the question but that it was even dangerous to remain in the vicinity.

Cochrane was not surprised at the failure to join up with the company from Mariquina. He had long since learned that combined operations in that jungle-covered wilderness often failed to work out according to plan.

At the time these events occurred, there were no motor vehicles and airplanes. Radio communication had not come into use, and there were no improved roads in the theatre of operations. Communication which can be effected now in a few minutes, or at the most in a few hours, was then a matter of days. Most of the country was blanketed in heavy jungle and the trails that slithered through it were narrow and tortuous. The rate of march on the best of them seldom, if ever, exceeded a mile and a half an hour. Moreover, no maps were available and native guides were not always reliable.

The captain considered his mission. His orders were clear. He was to strike Bosoboso from the north and cooperate with the other columns. But, San Miguel, instead of being in the town, was holding a strong position across the river. Furthermore, the insurgent chief retained full freedom of action: he could await attack where he was, pass to the offensive, or slip away during the night and evade pursuit. As for coöperating with the other columns, neither was present and there seemed to be no way of getting in touch with either one before the next day. Although Cochrane was only twenty-four years old, he had been in the field for more than four years. He knew the country and the people and prided himself on a well-earned reputation for good judgment.

He knew that he would be held at fault if he let San Miguel get away without a fight. But, on the other hand,



Company A's march over the mountains.

he was fully aware that if he attacked this greatly superior force and lost the fight both his prestige with the natives and his reputation for good judgment with his superiors would suffer.

Cochrane's father had fought through the Civil War under General Nathan Bedford Forrest and loved to talk about his old commander. In his perplexity Cochrane turned for inspiration to the man whom his father had characterized as the greatest leader of the War, with the possible exceptions of Lee and Jackson. What would Forrest have done in this situation? Would he have withdrawn? Would he have sacrificed the initiative by passively awaiting attack? The answer was plain. Forrest would have fought, not rashly but audaciously, making use of his force and the accidents of the ground so skilfully as to turn apparent disadvantages to his own advantage. Cochrane recalled the story about the officer who wrote for instructions and Forrest's forceful and laconic reply: "Fitum."

Thereupon he decided (1) to halt for the night, (2) to reconnoiter and (3) to prepare to attack early the next morning, with Company A alone, should the other columns fail to arrive. He put the company in the stone church; established a small outpost; bought food supplies; had a good meal served and let the men rest. He then sent the following message by two native runners to Antipolo:

> To any American Officer:
>
> Arrived Bosoboso 4:00 P.M. today, February 7th, without meeting other columns. San Miguel with force estimated at 400 men now intrenched on right (East) side Mariquina River opposite this town. I will attack at daybreak tomorrow. Please inform Commanding General, Field Force, Pasig.

Further interrogation of the earless Presidente brought additional information regarding trails, river crossings, the hostile force and the terrain. The Presidente said that the valley where the insurgents were intrenched had been under cultivation and was fairly open, the upper slopes being covered with *cogon* grass and the gentler slopes dyked for rice growing. He also remembered that an insurgent detachment occupied a spur of the mountain in rear of the insurgent left.

After dark Cochrane, accompanied by a native guide, a lieutenant, and two sergeants, reconnoitered a trail that led to a crossing a mile or so down the valley. The reconnaissance disclosed that both the route and the crossing were practicable and were not covered by the insurgents.

Cochrane returned to the church shortly before midnight. With the information now in his possession it was easy to formulate a plan for the next day. San Miguel evidently expected that an attacking force would follow the direct trail that ran from Bosoboso across the open valley to the ford in front of his position. This would be nice, indeed—for San Miguel. His riflemen, resting comfortably in their trenches on the heights beyond the river, would have a field day and that virtually without risk. But Cochrane did not propose to conform to San Miguel's wish. He decided that he would leave Bosoboso at half past three in the morning, move by the route he had discovered, and launch a surprise attack on the insurgent right flank at early dawn.

The company marched according to plan and crossed at the ford north of the town. Before the sun rose the company had reached the south edge of the jungle about 800 yards in rear of the right flank of the hostile position and on higher ground. The valley in front was open and from where Cochrane stood he had a clear view of the enemy's trenches. The insurgent soldiers were standing to, their blue shirts and red blanket rolls showing up conspicuously in the morning light. All were facing *westward*.

Halting the company just long enough to permit the men to close up, Cochrane pointed out the insurgent position and ordered—"Attack at once; 1st and 2d Platoons in the firing line, 1st Platoon on the right; 3d Platoon in support. Move on the flagpole and hold your fire until you get under 400 yards." After the 1st and 2d Platoons had deployed and advanced he ordered the support platoon to deploy and follow him. Then he moved forward following a short distance in rear of the firing line.

The American attack driving in suddenly on the right rear took the insurgents completely by surprise. After much confusion and some desultory firing, they scattered and fled southward to the mountains, leaving the field littered with their dead and wounded. Company A's casualties were two men wounded.

By eight o'clock the fight was over and Cochrane halted his company at the foot of the mountains west of Bosoboso to rest and reform before continuing the pursuit. At that time he saw on a bare mountain top far to the westward a marching column that proved to be the scout company from Mariquina. Contact having been established, the two companies pursued San Miguel's force during the day and night of February 8th and throughout February 9th. On the 9th the insurgents scattered and this coupled with the exhaustion of Cochrane's company brought the pursuit to an end.

San Miguel reassembled part of his command west of San Mateo at a place called Corral-na-bato. A few days later he was killed and his force completely destroyed by two scout companies commanded by Captains Reece and Nickerson.

A discussion of Captain Cochrane's action is now in order. In arriving at his decision, he followed the old rule—"When in doubt, attack." There is some question as to the wisdom of this decision. If he had waited for the arrival of one or more of the other columns the enemy might have been destroyed then and there. It is true, of course, that his attack and pursuit drove the insurgent force out of the mountains into more open country and to that extent assisted in its ultimate destruction.

But Captain Cochrane did not comply with that part of his mission that prescribed coöperation with other columns. Naturally, the responsibility for non-compliance rests squarely with him. Current doctrine concern-

ing departure from an assigned mission is clearly set forth in the Command and General Staff School's pamphlet on combat orders. It is quoted here because many of our officers are unfamiliar with it. But, regardless of familiarity, the following extract can not be read too often:

> Great stress is laid upon the importance of adherence to the mission. A commander cannot abandon his mission without incurring the risk of wrecking the plans of his superior. It is not to be understood, however, that a commander must stick blindly to his mission regardless of the developments of the situation. History is full of instances in which commanders have had to abandon their missions because of changed conditions.
>
> Only a radical change in the situation will justify an abandonment of a mission. In such circumstances the following principles will guide the commander in deciding his course of action. A mission will never be departed from in letter or spirit:
>
> *a.* So long as the officer who assigned it is present and does not himself alter it.
>
> *b.* If the officer who assigned it is not present, so long as there is time to report to him and await a reply without losing an opportunity or endangering the command.
>
> If the above conditions do not exist, a departure from either the spirit or letter is justified if the subordinate who assumed the responsibility bases his decision on some fact which could not be known to the officer who assigned it, and if he is satisfied that he is acting as his superior, were he present, would order him to act.
>
> If a subordinate does not depart from the letter of his mission when such a departure is clearly demanded he will be held responsible for any failure which may ensue.

How does this doctrine tie in with Captain Cochrane's action at Bosoboso? In that day and in that country it was necessary and customary to allow column commanders great latitude in the execution of an assigned mission. The very conditions under which these columns operated precluded close supervision. In this case the commander of the Field Force was not present and it would have taken two days to communicate with him at Pasig and get a reply. Moreover the much sought San Miguel had at last been definitely located and, if unmolested, might escape. Had Cochrane hesitated, the moral repercussions in his native command would have been immediately apparent. Finally, experience had taught this young captain that concerted action in this wild country did not always materialize no matter how precise the order. All in all, then, Captain Cochrane's decision to attack at once appears to have been well taken.

The fight at Bosoboso is only a forgotten incident in a forgotten war but the lesson it holds still merits the attention of those who aspire to lead soldiers in the field.

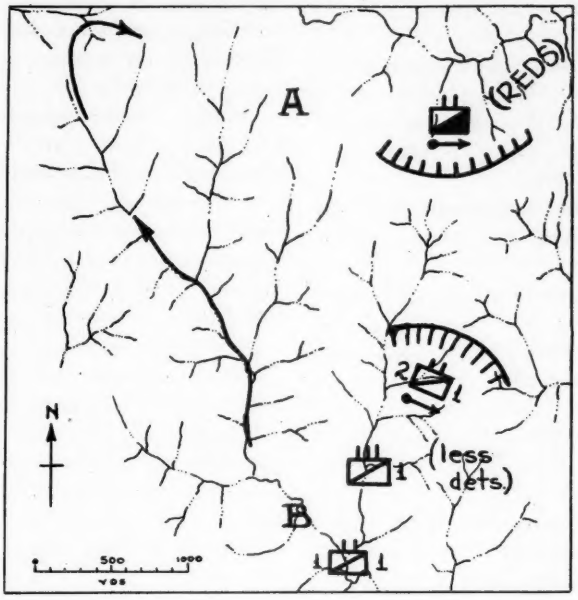
German Comment on United States Army Equestrian Team

(Translated from *Sankt Georg*, Berlin, September 15, 1936)

EXTREMELY appealing was the team of the United States of America. Born horsemen, excellent riders, in perfect harmony with their horses, no rough hands, riding lightly, capable and soft in conducting their horses, but at the same time striving for victory with every energy. The riding of such masters as Major Bradford, Captain Thomson, Captain Jadwin, and Captain Raguse was invariably a pleasure to see. And in addition, the famous horses: attentive, willing, no pullers, wonderfully manageable and harmonious, moved like intelligent well-trained soldiers over all kinds of obstacles, and were already on the second day perfectly at home in the stadium. The Americans secured some very nice results and brought their expedition to Europe to a very successful conclusion. The horses are all good models, practical, able, not standing over too much ground, some of them even short, without big lines, while in the croup somewhat sloping; very handy, solid horses, well balanced, with great girths, long shoulders, good legs and good necks, none of them over average size. From this structure results the ability of the horses to adapt themselves to all kinds of obstacles. The intimate understanding of the rider with his horse seemed to be extremely pronounced in the American team. These horses take nothing with indifference. They seemed to make a point of honor to satisfy their riders.

The Chief of Cavalry extends to the Officers and Enlisted Men of the Regular Army, National Guard and Organized Reserves, his best wishes for a Merry Christmas and a Happy New Year

What Would You Do?



SITUATION

Before I opened the dining room door I could tell that it was Mr. Rhed Appel, 2d Lieutenant of the 1st Horse, speaking. One might say *broadcasting* over the station EGO. Such had been the fate of the members of the mess for a great number of evenings. As I opened the door, Rhed Appel was saying:

". . . and it kinda gets me. Here they have all these high-powered first loots and captains, and for some reason, unknown to me, Major Peaty Eau picks on me." Major Peaty Eau, it will be remembered, was S-3.

"Well," broke in one of the more fortunate, "I knew you were leading with your chin a long time ago. This sitting on his door steps so to speak, says I, can lead to no good—but Rhed Appel, your story smacks of interest—go ahead."

"When I answered his summons," continued Mr. Rhed Appel, "he cools me off a little by making me wait while he goes through reams of papers on his desk. Then he looks up, then he digs some more, then he sighs, then he looks up, and finally he says, 'Rhed Appel, I *know* you can do this, and I *know* you'll be glad to help me. I'm trying to get three or four things out by tomorrow, and I need help. Will you work on this for me, and give it back after stables in the morning?' He then hands me these."

Therewith, Rhed Appel drew from his pocket folded papers, and after flattening them out started reading:

"The Blah-Blah River is the boundary between two states, Red (north) and Blue (south). War has recently been declared. The boundary is held by civil guards only.

"With the mission of securing the bridges in the vicinity of Rowdedow, the 1st Cavalry moved north today and gained contact with a Red cavalry squadron which had advanced from the north. At 1:30 P.M. the situation is as shown on the map (see sketch above).

"The 1st Squadron, Major A commanding, has been ordered to move rapidly by a covered route of approach to the vicinity of Hill A from which it is to attack the hostile right (west) flank. The 1st Platoon, Troop A, with a light-machine-gun squad attached, has received orders to cover the approach—that the squadron would regulate on it by not less than 800 yards—taking the general route indicated.

"At this time, Lieutenant A, commanding the 1st Platoon, Troop A, is with his platoon at B.

"The light-machine-gun squad has joined his platoon. Lieutenant A has received his orders and has explained the situation briefly to all his noncommissioned officers. He then issues an order in substance as follows:

Silence.

"There Major Peaty Eau stopped. He added, 'Of course, there's nothing to it from there. As I mentioned, I won't be able to finish it today. I'm interested in a practical exercise. Will you complete Lieutenant A's order, and by the way, work out an inspecor's check list of tactical points to be checked ? Be sure to let me have it before noon tomorrow.' "

"Ah me," sighed Mr. Rhed Appel, "so I ask you, gents, if you were plotting against Lieutenant A,

WHAT WOULD YOU DO?"

(For solution, turn the page.)

SOLUTION

"My orders," said Lieutenant Tack Tishun, "would be of this nature:

" 'This platoon will cover the approach march of the squadron to its attack locality on the west slope of the ridge occupied by the enemy. We move by bounds. First bound: to the head of this canyon (pointing).

" 'Further orders at first objective.

" 'Corporal A's set of fours will keep ahead of the platoon about 300 yards. Formation: As foragers. Watch me for signals.

" 'Remainder of platoon in line of squads, follow me.' That's my contribution."

"Sounds reasonable," said Rhed Appel, "but what about all these points to be checked?"

"Well," spoke up Lieutenant Hoofhooke, "if you will admit to Major Peaty Eau by inference at least that this isn't all the work of your own fertile brain, I'll give you a lead.

"Suppose you visualize. What would *you* do? How about the mission? Does Lieutenant A understand it? Does he properly use the ground for the approach march? Does he prescribe the formation? Does he provide for necessary flank observation and protection? Does he direct proper reconnaissance?" Then with the wave of his right hand, "Et cetera!"

"Don't *et cetera* me now," a plea from Rhed Appel, "if there are any et ceteras around, I not only need them, I need them badly."

"Well," continued Lieutenant Hoofhooke, "you might look into the future a bit. These Reds have probably put something out themselves. So I'd add that if he runs unto Red resistance, does he promptly get his detachment under cover and report the situation to his squadron commander or take measures to brush aside the hostile resistance? What about enemy patrols encountered? If that'll help, I'm leaving. I've got a heavy date."

Rhed Appel had long since lost interest in the meal. "You all have been swell about this, and many thanks." Followed a pushing back of chairs. Rhed Appel looked at his watch. Too late now. Hours of work ahead. "One more thing that you might be able to help me with though, is why, I wonder, must all this be finished tonight?"

"You've just had some tactics," volunteered Captain Ohl Tymer, "and, unwittingly, some strategy. Years ago I learned *never* to try to date a bachelor major's girl."

(Department of Tactics, The Cavalry School.)

Military Characteristics of Combat Vehicles

By Major Robert W. Grow, Cavalry

VOLUMES have been written on combat vehicles. The reading public has been deluged with pictures and descriptions of iron horses, amphibious tanks, flying tanks, scout cars, squad cars, armored cars, armored motorcycles, etc. New types, especially foreign developments, usually are presented as glowing accounts of capabilities, largely intended for lay consumption both at home and abroad.

The purpose of this article is not to advocate any specific type of combat vehicle, nor is it to debunk the multitude of fantastic machines, many of which incorporate splendid ideas. Nor is it to offer the reader a detailed history of development which, by the by, forms a most interesting study and is, as well, highly essential to technical progress. It is an attempt to present a general picture of the military characteristics which are required in combat vehicles, the relative importance of these, and the compromises that are necessary to balance such highly conflicting factors as mobility, weight, fighting power, protection, stability, etc.

The ideal fighting machine is rather difficult to visualize because we are all so familiar with certain basic mechanical limitations that we automatically eliminate what appear to be nothing more than dreams. Often, however, such dreams become objectives as ever progressing science finds a concrete basis for its work. The "flying tank" which scurries over the ground, hops over woods and streams, and flies over mountains represents a dream of mobility. If this same beast have a skin so tough that bullets bounce off, or if it be covered with a magic paint that makes it invisible to enemy gunners, we solve the problem of protection. Now add some weapons dealing death to our hapless opponents and a stable mounting so that the gunners never miss and cap it all with a perfect radio. Other gadgets to throw flame, smoke, and gas; devices for comfort; protection against chemicals; unlimited fuel supply; invisible lights for night operations; noiseless operation and many other improvements can be added to our dream war machine.

It is the combination of all desirable features which presents a problem.

It is surprising how many of these characteristics can be built into a vehicle today if they are considered one at a time. It is the combination of all desirable characteris-

tics that presents a problem. It is almost too obvious to bear repeating that the airplane and autogiro present solutions to crossing woods, streams, and mountains. But to handicap a flying machine with the sturdiness necessary to enable it to race across the fields and pastures while carrying its wings defies our present mechanical imagination. Maybe it can "shed" its wings and later sprout new ones. At least there is a future, although probably quite a distant future, for the flying tank.

The problem of the amphibious vehicle can and doubtless will be solved. We have seen tanks that swim but once they get ashore they were not very good tanks. This is not as difficult a problem as flying and doubtless will be satisfactorily solved in the not too distant future.

The question of protection is one of the most vexing. The armor-piercing bullet always seems to be a jump ahead of armor. Armor is heavy. Weight is one of the greatest obstacles to mobility. The knights of old found armor to be such a liability that it was abandoned to gain increased speed. Many today feel that fighting vehicles must depend on movement, rather than armor, for protection.

It is harder to hit a small target than a big one. Vulnerability is sometimes said to be proportional to the square of the height of the target. We seek low silhouettes.

We all know the comparative stability (riding comfort) of a car with a long wheel base. How important is the question of suspension can be vividly described by anyone who has glued his eye to the telescope of a free-swinging gun while a combat car was racing across the reservation and the targets were seemingly first everywhere, then nowhere. Good suspension means, among other things, size and weight.

No great imagination is needed to see in our mind's eye the gullies, stumps and rocks, all hidden by brush, high grass and weeds that cause a buffeting and banging of our fighting machine every time it leaves a road. It must be sturdy and mechanically reliable. Again our requirement means weight.

All important to the cavalryman are his eyes. He cannot run or gallop or drive where he or his horse cannot see. He cannot shoot (and hit) what he cannot see. He cannot guide on his leader or conform to the movements of his comrades if he cannot see them. Observation conflicts with protection unless our "windows" can be made bulletproof.

Our discussion of these factors and such items as fuel capacity, lights, gas protection, signals, noise, camouflage, mechanical dependability, etc., could go on for many pages. But enough has been said to show that many, if not nearly all, of the desirable characteristics of fighting vehicles are possible of attainment, each in itself; however, many of the characteristics, desirable in themselves, are conflicting with others equally desirable. We must compromise. We can fly, we can swim, we can attain high speed across country, we can arrange great, although not absolute, protection, we can reduce noise, provide almost perfect communications, furnish splendid observation, but we cannot have all of these in one vehicle.

One example might be given to illustrate. Many officers have said: "We want a light, cheap, commercial vehicle for cavalry. We don't want one of these big, expensive monstrosities such as the present scout car or combat car." The reply is decidedly yes, we want exactly what you say, a light, inexpensive, commercial vehicle. But just exactly what do you want on it? Be specific. The reply usually is: "Well, I want to mount two or three guns, a little armor, bulletproof tires, a radio, and, if possible, a front wheel drive. I think it ought to be a little higher; these commercial cars are so close to the ground." It doesn't take but a few minutes with a pencil to add up these items and, of course, by that time you need a bigger engine, a stronger frame, and there you have the weight. As a matter of fact, the present scout car M2A1 is exactly what was asked for, i.e., commercial chassis and just as cheap and light as it can be made with the traction, armor and armament desired.

And so we come to earth after flying about in a dream combat vehicle. Decisions must be made as to the relative importance of the several contradictory factors. In other words, we must state the military characteristics desired with a priority that is practicable from an engineering point of view under conditions as we find them today and with due consideration to wartime procurement.

Mobility is the paramount characteristic for cavalry. Mobility alone cannot win the battle but without mobility our unit would cease to be cavalry. With mobility, of course, we must have fighting power. This means guns and observation, ability to fight both mounted and dismounted. Experience in maneuvers of the past few years also emphasizes protection, especially from surprise fire. High mobility encourages high speed. High speed invites ambuscade. Cavalry operations are comparable to open field running in football. Tacklers are likely to spring up from anywhere, flank or rear. Personnel in moving vehicles are rather helpless against surprise fire. Unlike the man on foot, they cannot drop to the ground instantly. They cannot even take the rapid advantage of local cover usually available to the mounted man. The only answer to immediate temporary protection against surprise fire is armor. Soldiers can be expected to act boldly and vehicles can be expected to continue proper mechanical functioning only when personnel and vehicle are given reasonable protection. Protection, however, must never predominate over mobility and fire power if we expect to carry out cavalry missions. Our real protection consists in striking the enemy first. Our objective must be to "Hit the other fellow before he hits you." The requirement is obviously greater mobility and greater fighting power. But we cannot always hope to time our "punches" exactly right and so a requirement for protection remains.

Therefore the basic military characteristics in the order of their priority are:

1. Mobility.
2. Fighting power.
3. Protection.

Mobility brings to mind speed and also the ability to traverse all reasonable terrain. If we visualize a battlefield for a moment we will think of fields, pastures, wood lots, fences, gullies and ditches. Maybe there will also be trenches or artificial obstacles, although cavalry hopes to avoid these whenever practicable. Interspersed through the area are natural, and probably artificial, obstacles. The bulk of the enemy's defensive weapons will be sited so as to take full advantage of all obstacles. If a vehicle is slowed down or stopped when it encounters an obstacle it may expect to face the full effect of hostile fire while it is a most favorable target.

The interpretation of the word "mobility" must, therefore, include ability to maintain a ***uniformly*** high rate of speed across country. To the extent that our vehicles embody such mobility will their value in combat increase.

Experience verifies the theories advanced by common sense that only in a track-laying vehicle can we approach the ideal in mobility. On the other hand, wheeled vehicles can be designed which include sufficient favorable characteristics to warrant their use in carrying out many cavalry missions.

Fighting power involves weapons properly mounted to assure their effective employment, observation, ruggedness of construction (shock power), and facilities for personnel to properly operate weapons (space, ammunition, sights, etc.). Flexibility of fire is essential to cavalry. We must be able to bring our fire to bear in any direction without loss of time. This can be accomplished best by one of two methods: (1) a revolving turret or (2) a track running around the fighting compartment upon which guns are mounted. The latter method gives greater flexibility since all guns may be laid in the same direction or in different directions at the same time. The first method gives greater protection since no top armor is practicable in the second method.

No special comment is necessary for cavalrymen to appreciate the importance of observation. Mobility and fire power are both so dependent upon it that it is given a very high priority.

Ruggedness of construction is vital to both mobility and fighting power. Our vehicles must be able to take punishment, especially those vehicles with which we plan to close with the enemy.

Cramped quarters and inaccessibility of fighting equipment, including tripods for dismounted action, are not consistent with cavalry requirements.

A great deal has been written in defense of one- and two-man tanks and similar vehicles. These have a place in the Army, but with few exceptions, no place in mechanized cavalry. It requires not less than four men to properly fight one vehicle. The driver, especially across country, concentrates his attention on the immediate front. He makes small changes of direction and speed to meet the conditions of the ground. He is not in a position to determine the general direction, the average speed, or the changes in either necessitated by the tactical situation. The gunner likewise concentrates on a particular target. A change of target, especially when it involves a decided change in direction, is beyond his purview. The vehicle commander observes his next superior (vehicle fighting is team fighting), watches the other vehicles of his unit to maintain teamwork, controls the general direction and speed through his driver and controls the fire through his gunner. This accounts for three men. A replacement for any of the three should be immediately available. One gun is decidedly not a "payload" for a comparatively large vehicle. An assistant gunner, or second gunner, is needed unless the commander take over a gun himself, in which case he reduces his ability to control the whole. Obviously a fourth man is a necessity, usually termed an assistant gunner. He is both a replacement and a gunner. Therefore, for cavalry operations in which a changing situation is normal a combat vehicle should provide for a squad of not less than four men. A greater number of men means greater size and weight, hence the number four has been fixed, at this time, for all vehicles which normally fight mounted.

Military characteristics are designed to meet the requirements presented by missions. Missions of cavalry require rapid, frequently distant, maneuver, prompt and powerful attack, strong but comparatively short defense, and the extensive employment of detachments for reconnaissance and security.

Military characteristics for combat vehicles may then be tabulated as follows. These are general and applicable to all vehicles. Specific military characteristics are prepared for each type of vehicle developed.

1. Mobility.
   - *a.* High sustained speed.
   - *b.* Ability to maintain a uniformly high rate of speed across country on the part of vehicles designed primarily for combat. This requirement may be reduced for vehicles designed primarily for reconnaissance, security, and the transportation of fire power normally employed dismounted.
   - *c.* Maximum observation.
   - *d.* Ruggedness.
2. Fighting Power.
   - *a.* Weapons effective against personnel and armored vehicles of the type normally encountered by cavalry.
   - *b.* Maximum flexibility of fire, (This includes fire from vehicles and facilities for employing weapons on the ground. Some vehicles are designed primarily for mounted fire and others for the dismounted use of weapons. A secondary method should, however, be practicable in the case of every vehicle, for emergency use.)
   - *c.* Maximum observation.
   - *d.* Ruggedness.
   - *e.* Capacity for a squad of 4 men in vehicles designed for fighting mounted, and for approximately 8 men (2 machine gun squads) for vehicles designed to transport personnel who normally fight dismounted.

Note: The latter requirement visualizes the use of full-track, half-track, or 4 or more wheeled vehicles. It does not prohibit the use of much smaller vehicles (such as 3 x 2 motorcycles) for the transportation of fire power when the other characteristics are met. In this case vehicle capacity might be reduced and additional vehicles provided to carry a complete tactical unit.

3. Protection.

The best all-round protection that can be given without reducing the preceding characteristics. This may vary from heavy armor on a combat car to very light or even no armor on a motorcycle designed merely to transport fire power.

The problem of *weight*, for it is a problem rather than a characteristic, has been left to the last. Every effort is made to keep the weight at the minimum consistent with the necessary characteristics listed above. The place where weight plays a most controversial part is in protection. A guiding principle is that weight is added without hesitation to provide ruggedness, strength and power whenever these are necessary to meet the requirements of the primary characteristics (mobility and fighting power), but it is added for protection only to the minimum extent believed necessary for the protection of machinery and personnel against surprise fire, and in the case of vehicles designed for offensive combat to give reasonable protection against small arms fire on the battlefield.

Application of the military characteristics outlined has resulted in the development of *two general classes* of combat vehicles: (1) those designed primarily for fighting mounted, embodying the maximum mobility and fighting power combined with reasonable protection; and (2) those designed primarily for reconnaissance, security, command, and the transportation of supporting fire power, embodying high road but in general, less cross-country mobility, maximum fire power, and minimum protection.

Vehicles of the first class are combat cars.

Those of the second class include scout cars, armored cars, personnel carriers, mortar mounts, and motorcycles (2 x 1, 3 x 1, and 3 x 2). Traction may be track, half-track, or wheel. The term "scout car" is coming into general use and a single chassis has been found practicable for the several heretofore separate types known as scout cars, armored cars, personnel carriers, and mortar mounts. The very light motorcycle type chassis may prove capable of meeting the military characteristics for a part of this class, while both full-track and half-track chassis warrant further investigation.

Whether a chassis is full-track, half-track, or wheeled depends upon mechanical development. In any case, missions exist from which military characteristics are developed. Upon the latter the mechanical characteristics (or specifications) are built.

If we constantly bear in mind our mission, we can prescribe military characteristics with assurance that they are sound. Next a definite priority must be established with respect to conflicting characteristics. And finally, vehicles must conform to engineering capabilities as they exist today, always with the hope that the future will offer a "lighter, cheaper, commercial vehicle" whose characteristics we can accept and apply to the accomplishment of cavalry missions.

The entire field embracing the development of cavalry combat vehicles, particularly the cross-country transportation of fire power, is wide open. It awaits the genius of any and every man who studies the problem to bring forth a better solution.

Notice of Annual Meeting

The annual meeting of the United States Cavalry Association will be held at the Army and Navy Club, Washington, D. C., at 8:00 P.M., Monday, January 18, 1937.

The proxies of members who do not expect to be present may be sent to the Secretary, United States Cavalry Association, 1624 H Street, N.W., Washington, D. C.

The Duke of Wellington

By Major General J. F. C. Fuller
British Army

IN so brief a memoir as this, it is not easy to do justice to as great a man as Arthur Wellesley, Duke of Wellington, for his was a long life and a full one. Not only did it cover the whole of those tremendous years 1789-1848 (the greatest war in history until 1914 and the greatest revolution until the present age emerged) but for nearly fifty years the personality behind it was a dominant factor in Europe. This being so, I think it will be more just to him and more profitable to the reader if I eschew encyclopædic methods, and, instead, examine him in such a way that we may discover what manner of man he was.

Fourth son of the First Earl of Mornington, he was born in 1769, the same year as Napoleon, probably on May 1, yet the date is uncertain, as it is in the case of his great opponent. Of his boyhood not much is known except that he had a liking for music and that his mother thought so little of him that to her he was "food for powder and nothing more." Partly educated in France, he was gazetted to the 73d Foot in 1787, became Lieutenant Colonel in 1793, Major General in 1802, Lieutenant General in 1808, General in 1811 and Field Marshal in 1813. This rapid rise was due as much to his parentage as to his abilities; for, without the first, the second would have been of little avail to a man of humbler birth.

WELLINGTON

Reproduced by special permission of His Grace The Duke of Wellington. From the painting by Sir Thomas Lawrence at Apsley House.

In stature he was of middle height, slight and wiry. His face was rather long. His eyes were a cold grey and his nose aquiline: "The sight of it among us," wrote Sir John Kincaid during the Peninsular War, "was worth ten thousand men any day of the week." His soldiers used to say, "Arty, that long-nosed — — — — that licks the Parleyvoos!" Physically, his endurance was amazing, and this was no doubt in part due to his simple way of living. He ate and drank little. . . . "We dined on rations; no wine and no money!" wrote one of his officers in 1812. He slept on a twenty-inch camp bed, and could sleep at any time and in any place. At the battle of Salamanca he said to his A.D.C.: "Watch the French, Fitzroy, I am going to take a rest; when they reach that gap in the hills wake me," and a minute later he was asleep.

He was practical in his dress and simple in his requirements. One of his officers says, "I suppose no army ever had less baggage." And another, "We had no unnecessary drilling, nor were we tormented by that greatest of all bores . . . uniformity of dress." So little did he worry over it, that he saw nothing peculiar in General Picton riding at the head of his troops carrying "a huge white umbrella lined with green."

Inwardly he was even more remarkable. First and foremost, and this is the key to his character, to his successes and his failures, his virtues and his vices—he was a believer in the divine right of blue blood. Although, he was an aristocrat to his finger tips, he loathed ostentation and outward show. Possessed of a profound sense of duty, he was autocratic and dictatorial and was never able to suffer fools gladly. He was outspoken to a degree, and as a result made many enemies and few friends, except among women, and even then, should they show a lack of breeding, he could freeze them with such remarks as, "Publish, and be damned!" A voluminous writer and a profound student of war, he cultivated an unshakable self-confidence and control. He was never elated by success or depressed by failure, yet I feel that his chief assets lay in his ability to bear responsibility, in his integrity, moral courage and profound common sense. Humbug and sycophancy he could not tolerate. Once,

He was never able to suffer fools gladly.

when Wellington was an old man, a gentleman assisted him across Picadilly and then with hat in hand, expressed in fulsome words the honour done to him: all the thanks he received was—"Don't be a damned fool, Sir!"

This realism was reinforced by an acute sense of humor. Thus, when he fought his famous duel in Battersea Fields with Lord Winchelsea, directly that gentleman arrived Wellington turned to his second, Sir Henry Hardinge, and said: "Look sharp and step out the ground. I have no time to waste. Damn it!" he continued, "don't stick him up so near the ditch. If I hit him he will tumble in." Yet I like best his reply, when he was told that General Cambronne had exclaimed: *"La garde meurt, mais ne se rend pas!"* Looking at a group of elderly Brussels cocottes, known as *"la vieille garde,"* he replied: *"Elles ne meurent pas et se rendent toujours!"* But sometimes he could be bitingly sarcastic. For instance, in 1815, at the Court of the Tuileries some of Napoleon's generals, who had become Royalists, turned their backs upon him. Louis XVIII, who attempted to excuse this rudeness, received the following reply: *"Sire, ilssont so accoutumés à me ourner le dos, qu'ils n'en ont pas encore perdu l'hatitude!"* Such was Wellington.

His first active service came in Netherlands in 1794. It was a poor beginning, but, as he said some time afterwards, "I learnt what one ought *not* to do, and that is always something." Three years later he went to India, where his brother, the second Earl of Mornington was Governor-General. It was to him that Pitt once said concerning his brother Arthur: "I never met any military officer with whom it is so satisfactory to converse. He states every difficulty before he undertakes any service, but none after he has undertaken it." There he remained eight years and saw much active service. During the invasion of Mysore he was repulsed in a night attack, after which he resolved "never to attack by night a post which had not been reconnoitered by day." In 1803, he won the battles of Assaye and Argaum and, in 1805 returned to England, putting into St. Helena on the way. Of St. Helena he wrote: "The island is beautiful, and the climate apparently the most healthy I have ever lived in." Perhaps ten years later, when Napoleon was a prisoner, he remembered that visit.

In 1807, Wellington commanded a division in the Copenhagen campaign and the following year was placed in command of an expedition to Portugal. Landing at Mondego Bay in August, he at once assumed the offensive. He won the combat of Rolica on the 17th and the battle of Vimeiro on the 21st, during which he was superseded by two incompetent generals—Sir Harry Burrard and Sir Hew Dalrymple. This led to the Convention of Cintra and, on account of the storm it raised in England, Wellington's carer as a soldier would probably have come to an abrupt end had it not been for the good services of Castlereagh.

He urged the Government to continue operations in Portugal and Spain and in 1809 was appointed to head a new expedition there. Before taking over his command he placed before Castlereagh an appreciation entitled "Memorandum on the Defence of Portugal," which Sir Charles Oman, the historian of the Peninsular War, rightly acclaims to be "a marvel of prophetic genius," for in it he predicted the whole course of the six years' campaign. He stated that the war would be a long one, that his task was to keep it going as long as possible, and that ambitious schemes should be set aside. He claimed that with 30,000 men backed by Portuguese levies and by using Portugal as a fortress supplied by the sea, he would be able to operate against the flank of the French armies in Spain. These he would paralyze, thus giving time for the Spaniards to develop a formidable guerilla war on the French communications.

This was his plan, yet what were the means at his disposal? When, on April 27 he took over command of the British military fragments in Portugal, in all some 22,000 strong, the situation that faced him was appalling. Of commissariat there was practically none. There was no siege train, no ammunition columns, no ambulances and no pontoons. The men were in bad state of discipline; many of his officers disloyal; the staff inexperienced; the cavalry very weak and the oxen-drawn artillery totally inadequate. What did he do? By sheer force of will he shook these fragments into an army which he concentrated at Coimbra. On May 12, he crossed the Douro and occupied Oporto. He then pushed deep into Spain and on July 27 and 28 won the battle of Talavera.

That he was able to carry out such a campaign (as brilliant as Napoleon's of 1796), as well as the many others that were to follow it, was due to his long-sighted calculations and his faculty for judging the characters of his opponents. He was always observing them, and at Talavera was nearly captured whilst doing so. On another occasion, when on a reconnaissance, he saw Soult in the distance. Of this he said, "I had an excellent glass: I saw him spying at us—then write and send off a letter: I knew what he would be writing, and gave my orders accordingly."

In the realm of strategy, few generals have possessed so clear and calculating a brain as Wellington. He could weigh time and space factors with extreme accuracy. But more important yet, he realized how Nelson's victory at Trafalgar could be exploited on land. Once he said: "All the business of war, and indeed all the business of life, is to endeavour to find out what you don't know by what you do!" Because he was such a careful student of men and of events, he saw that the main problem of this war was one of lines of communication and supplies, not of numbers of fighting men, and that here England held the trump card—command of the sea. Of his strategical undertakings, it has always seemed to me that his masterpiece was his planning of the Torres Vedras campaign. This he thought out a full year in advance, as he did his move on Badajoz, in 1812. Though Masséna did not appear before the famous lines which protected Lisbon until October 14, 1810, Wellington had ordered their construction on October 26, 1809. Foreseeing that Napoleon

would reinforce his armies in Spain, and realizing that this would compel the British army to retire, he built the lines of Torres Vedras, and ordered the neighbouring country devastated. Thus, while the fortifications protected the British, Masséna would be "attacked" by starvation. This is what actually happened: the French were starved out of Portugal and the road to Spain was opened. Then, in 1811, the battles of Fuentes de Onoro and Albuera were fought, in 1812 Ciudad Rodrigo and Badajoz stormed and the battle of Salamanca won. Lastly, during 1813 and 1814 the successful campaigns of Vitoria and the Pyrenees carried the war out of Spain into France.

Wellington's foresight never failed him, in this most difficult of wars. Therefore, it comes as a distinct surprise to find him taken off guard at Waterloo—his last and most decisive campaign. Undoubtedly he misjudged the Royalist strength in France, and was deceived as to the nature of Napoleon's movements. Yet, also, I think that there were too many attractive women in Brussels at the time. For instance, on June 13 when Napoleon was but thirty or forty miles away, Wellington "took Lady Jane Lennox to Enghien for the cricket match . . . apparently having gone for no other object but to amuse her." And it is somewhat instructive to find him at 3:00 A.M. of the morning following the battle, writing to Lady Frances Webster, "a very pretty woman," to tell her she might remain in Brussels "in perfect safety." Anyhow, the Duke of Richmond reports that during the famous ball given on the eve of the battle, Wellington said to him, "Napoleon has *humbugged* me, by G—! He has gained twenty-four hours' march on me." Napoleon had gained the twenty-four hours all right, but it was Wellington himself who was responsible for the humbugging.

As a strategist Wellington was a truly great artist, because he possessed the faculty of being able to combine foresight with common sense. Consequently he never allowed his imagination to run away with his reason. Upon this foundation he built his tactics, and here again the same mental process is to be seen at work. Unlike most generals, he did not merely accept his army as a fighting instrument; instead he gauged its powers and limitations and devised his tactics accordingly. As an aristocrat he stood apart from his men. He disdainfully looked upon them as potential rabble and called them "the scum of the earth." Nor was he altogether wrong. For instance, in the winter of 1813-1814, the French peasants refused to accept Spanish dollars and English guineas. Therefore Wellington decided to set up a mint and appealed to his colonels to find him professional coiners. Forty were produced! Often has he been condemned for his cynical outlook; yet, in my opinion, it was justified, because whenever his men got out of hand, as they did at Ciudad Rodrigo and Badajoz, they behaved like fiends.

Though he sometimes dealt leniently with desertion, he would never tolerate plundering. As an aristocrat, his nature revolted at the thought of inflicting such hardship upon the common people; but more important still, he realized that plunder led to a relaxation of discipline and thereby impaired the fighting power of his army. It was for these reasons that his discipline was so severe and at times brutal. There are ten recorded cases of 1,200 lashes and fifty of 1,000 being given; up to 500 was a common punishment. Yet, whatever we may think of this today, we must not overlook the fact that the age was brutal and that, tactically speaking, brutality paid. It was not the kindly general, such as Sir John Moore, who succeeded, but men like Wellington and Craufurd. Once, when a commissary of the Light Division complained that Craufurd had threatened to hang him if supplies were not punctually delivered, Wellington replied: "Then I advise you to have them up in time. For Craufurd is just the man to keep his word." Further, it should be remembered that Wellington's system did succeed in fashioning an army which in 1813 "could go anywhere and do anything." Also he said: "There is but one way—to do as I did—to have a hand of iron."

With his officers his methods were the same, for he realised that most of them were grossly ignorant. He required implicit and blind obedience. When he dealt with men like Hill and Graham, he gave direct orders, but to intelligent and independent characters, like Craufurd and Picton, he generally explained why a certain course was to be adopted.

In spite of the fact that until near the close of the Peninsular War, his army was almost always outnumbered by the French, he was not one of those generals who saw strength numerically; he saw it in relation to bread and beef. He realised that a small army that could be adequately fed was tactically superior to a larger army that was reduced to foraging. As Sir Charles Oman says: "Wellington's salvation lay in the fact that he could hold his entire army together, while his adversaries could not." Even more clearly than Napoleon, did he realise that "an army marches upon its belly"; in other words, that there is a definite relationship between bread and bullets.

Since his army was small, he was compelled to be prudent; yet it is a great mistake to think, as many have done, that he was no more than a cautious general. Though a master in defensive war, he could, when conditions were favourable, be audacious in the extreme; witness Assaye and Argaum in 1803, the Vimiero and Talavera Campaigns, and the storming of Ciudad Rodrigo and Badajoz. His Fabian tactics were sheer common sense: when conditions demanded prudence, he was prudent, and when they did not he could strike like a thunderbolt.

Indeed, few generals have understood the ingredients of tactics as thoroughly as he. He grasped the limitations of the musket of his day—that it was a deadly weapon at pointblank range, but next to useless at a distance. He realised that the dominant characteristics of the English soldier were steadiness and stolidity, two things that the French soldier did not possess. Therefore he could risk opposing the column tactics of the French by a two-deep line, thus developing his full fire power. In order to pro-

tect his men and also to mystify his enemy, he made the fullest use of cover by ground. This skillful use of terrain completely deceived Junot at Vimiero, and at Bussaco, caused Masséna to mistake the British centre for its right. At Salamanca and at Waterloo it was the same. At Quatre Bras, General Reille, a veteran of the Spanish Wars, needlessly halted before a position held by a single Dutch-Belgian division, because he thought and said: *"Ce pourrait bien être une bataille d'Espagne—les troupes Anglaises se montreraient quand il en serait temps."*

Though I should like to discuss his tactics more fully, it is not possible to do so here. In the main they were of a defensive-offensive order: Wellington encouraged the enemy to attack, then when the enemy attack wavered in confusion, Wellington under cover of the smoke cloud of muskets, lashed out with his attack. He seldom massed his guns, because he rarely had enough and because his line tactics demanded artillery dispersion and not concentration. He seldom pursued a defeated foe, because his cavalry was weak and indifferent. He said himself: "They could gallop, but could not preserve their order." One remaining fact must be mentioned, for, combined with his use of ground, it raised him to the position of a supreme tactical artist. It was this: He saw everything for himself; he relied upon second-hand information only when it was impossible for him to do otherwise. As he said: "The real reason why I succeeded . . . is because I was always on the spot—I saw everything, and did everything for myself." Probably the most noted instance of this was at Salamanca. He was "stumping about munching" his breakfast, when an A.D.C. came hurrying in and said: "The enemy are in motion, my lord."

"Very well. Observe what they are doing," he replied.

In came the A.D.C. again: "I think they are extending to the left!"

"The devil they are!" remarked Wellington. "Give me the glasses." Taking it he scanned the moving French columns for about a minute and then exclaimed, "Come! I think that'll do! Ride off and tell Clinton and Leith to return to their former ground."

He then closed his telescope with a snap, and turning to his Spanish A.D.C. said: *"Mon cher Alava, Marmont est perdu!"* . . . and he was.

After the war he remained the same man he had always been—an exalted individualist. Because his aristocratic outlook ran counter to the rising democratic spirit of the age, it has been customary to write him down as a failure in the rôle of statesman. Actually was it not his amazing foresight, his vision almost spiritual in its clearness, that showed him where his spirit would lead? Are not events justifying it today? A failure he may have been during his short premiership of 1827-1830; but a failure from which much wisdom can be learned.

As a statesman his limiting factor was his contempt for the common people. Once he said: "I always had a horror of revolutionising any country for a political object. I always said—if they rise of themselves, well and good, but do not stir them up; it is a fearful responsibility." He was fervently anti-democratic. He did not believe in "the collective wisdom of individual ignorances," as Carlyle put it. He had no faith in the theory that Members of Parliament should be elected, as he said, "to obey the daily instructions of their constituents, and be cashiered if they should disobey them." He believed such a system of government would kill "the race of English gentlemen."

Long before this, when in India, he had urged his brother, the Governor-General, to reëstablish the native princes after they had been defeated. Why? Because he realised that in India bureaucracy or democracy meant ruin. In 1815, he prevented the dismemberment of France so that, "We do not leave the world in the same unfortunate situation respecting France that it would have been in if Buonaparte had continued in possession of his power." His object was "to put an end to the French Revolution" and not to humiliate a great nation.

It was he who put forward a memorandum in 1820 that led to the foundation of the London police, because he was insistent upon the maintenance of law and order. It was he, and almost he alone, who forced Catholic emancipation through the Commons and the Lords, in spite of the fact that he was a Tory of the Tories. He did it because he realized that, unless it were done, civil war would break out in Ireland. He opposed Parliamentary reform, because he thought it would lead to a slackening of authority and the strengthening of mob opinion. He believed that the best of all systems was what he called *"la Democratie Royale"*—as much autocracy and as little democracy as possible. When Lady Salisbury expressed her apprehension of a split in the party he exclaimed: "The party! What is the meaning of a party if they don't follow their leader? Damn 'em! let 'em go!" Lord Clarendon once said of him: "Oh, that will be simple enough. He'll say, 'My lords! Attention! Right about face! Quick march!' and the thing will be done."

It is true that he was an indifferent politician, because he was a leader of men, and not a follower of public opinion. He cared nothing for popularity. Again, he was never a Parliamentarian. As leader of the Lords, he wrote to Lord Londonderry: "I do not choose to be the Person to excite a quarrel between the two Houses of Parlt. This quarrel will occur in its time; and the House of Lords will probably be overwhelmed." He wrote thus, because he never held the opinion that the chief duty of the Opposition was to oppose. In 1838, to Lord Redesdale he wrote: "There is nobody who dislikes, so much as I do, and who knows so little of Party Management . . . if I am to act it will be according to my own opinions."

He lived long enough to witness the democratic revolution of 1848 and to discern therein a menace to honesty and efficiency in government. He died peacefully on September 14, 1852. Though Disraeli described him as "the sovereign master of duty," I would prefer to call him "the last of the great aristocrats"; a man who will be better understood and appreciated by his countrymen a generation hence, than he was in his day or is in ours.

Signitis

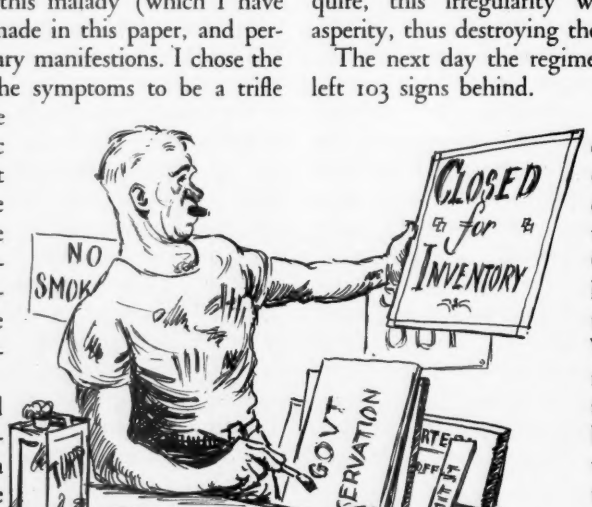
By Raphael

Then Simon . . . wondered, beholding the miracles and signs which were done. Acts 8:13.

DURING adolescence the desire to mark and placard billboards and sidewalks, and to inscribe maxims upon the walls, is considered more or less normal. An offshoot of this tendency, the stealing and hoarding of signs by college youth, causes little comment, except perhaps by the victim of the larceny.

When the desire to place explanatory signs upon all manner of inconsequential and obvious objects extends into adult life, it may be considered an aberration, an extensive study of which properly falls in the field of abnormal psychology.

A very limited study of this malady (which I have dubbed Signitis) has been made in this paper, and pertains exclusively to the military manifestions. I chose the military because I believe the symptoms to be a trifle more acute than in private activity. The liberal scientific spirit compels me to admit at the outset that I may be wrong, and that I can be convinced otherwise. However, let's examine the evidence gathered from one small garrison where the disease is endemic.



The regiment was camped ten miles from the reservation, on the first leg of a hundred-mile hike. At the head of K Company's street was the usual pyramidal tent, complete with bulletin board and guidon. A sign hanging from the canvas and another tacked to a stake announced that this was the orderly tent. Two signs announced respectively that First Sergeant Smith *was* the first sergeant, and that Private Jones the company clerk. The supply tent, next in line, was so designated by a sign. Sergeant White, it appeared, was the supply sergeant, assisted by a mechanic named Brown.

The shelter tents of the men were pitched in prolongation of the line of the first two tents. A small panel bearing the name of the occupant was set on a stake beside each shelter half. As an additional dignity, corporals and sergeants had a ground panel indicating their squads and sections.

Across the street under a fly, white-clad figures labored in an aromatic haze of slum and coffee. Two sad-faced varlets dressed in sagging denims languidly sopped dirty water about in G-I cans. To the upright pole of the fly was nailed a four-foot panel: "Kitchen," it stated, so none should doubt. Small, white panels with black letters, were attached to such objects as the icebox, field range, and serving tables.

At the end of a pathway beaten by the hurrying feet of purposeful men stood a khaki wall, from which after short stays emerged the same men, less hurried and less purposeful, departing with carefree whistling. "Latrine," said the sign, simply.

On this day there was an inspection, with the inspector and staff properly impressed by the copiousness of the signs. Owing to the limited space, the men, while displaying equipment, were forced to remove their nameplates in order to get in and out of their tents. In replacing the signs they failed to preserve the original alignment. In backtracking, a habit which inspectors acquire, this irregularity was commented upon with asperity, thus destroying the advantage obtained at first.

The next day the regiment moved out. Company K left 103 signs behind.

By retreat at the new camp, the company had its original gallery of signs on display. At the time, the S-4 was assuring the CO of A Company that upon his honor not a bit of transportation was available, Sergeant White was bowling down the road in a truck in quest of the lost signs, accompanied by the mechanic whose ears were still ringing with the threats of action that would accompany any further losing of valuable property.

So K Company wended its way across country, 103 signs secreted in the company baggage. The problem of transportation was solved eventually by a harried cook, who used the signs for firewood during a rainstorm. Cooks are not busted on hikes —not even by the most austere company commander.

This was just a sample of what K Company could do when hampered by field conditions. At home in the post, where life was even and the arts could flourish, sign painting had a larger field.

In the blank space on the wall of the hallway, just abaft the orderly room door, once hung an elaborate board with removable panels, fashioned from thirty dollars worth of plywood, stain, clear varnish, and brass fittings.

At the top was the name of the corps area commander, followed by the names of lesser commanders, down to include the first sergeant. There was a space for every man in the company, arranged by platoons and squads, with an eye for symmetry. There was space for the

charge-of-quarters, the day-room orderly, and the cooks on duty. The theory was that at a glance one could tell just where everybody was at any time.

Its maintenance grew a trifle complicated. Post headquarters transferred lieutenants about with complete disregard of K Company's name board. The men changed their ratings, jobs, squads, and platoons with disheartening ease. Finally came a pay day party (and *what* a party—the regiment will talk of it for years) down at Mickey's Bon Ton Grill, which resulted in the busting and transfer of two corporals, the desertion of a cook, and the jailing of six privates. The name board collapsed under this assault, and now gathers dust behind the 1908 pool table in the cellar.

Nevertheless, K Company was still well provided with signs, inside of barracks and out. Garbage racks bore aloft tin placards stating "cans," in addition to the small tags beneath each can announcing that it was a repository for "ashes," "garbage," and "paper." All doors were labeled with the names of the activities or occupants, including two that were "empty."

These sign activities for Company K, and the rest of the post, rested mainly on the shoulders of the post painter. As in most posts where Signitis is prevalent, he devoted much of his time and that of his assistants to the manufacture of signs. The real painting was done by prisoners and details from the companies. He was a genial inebriate borne alternately on the roster of the Quartermaster Detachment and the Guard Report. His assistants mixed and dispensed paints, while he painted signs when not restrained by temperamental difficulties not unconnected with gin. At times he reached a state of alcoholic deterioration rather difficult to overlook for the Officer of the Day and other dignitaries charged with the preservation of peace. Manifestly, he could not paint signs with a fine artistic abandon while in the guardhouse, and almost invariably his sprees took place when an all-important sign project was about to burst into full glory.

Our post painter enjoyed peculiar privileges. There were always sign projects, official and semi-official, of which the Quartermaster was unable to determine the degree of priority with any equity. Hence, individuals and organizations of the post found it advisable to ingratiate themselves with the post painter.

For instance, I Company was in dire need of a panel to identify the red fire axe hanging over the red bucket in the hall. The axe was labeled "fire" and so was the bucket, but it was felt that a tasteful arrangement of red, white, and black proclaiming "Fire Only" would insure the axe against being used for purposes of agriculture or mayhem. The painter arrived in the early forenoon smoking a dilapidated cigar, a pourboire from the post exchange representing a very nifty curlicued arrangement of "Stay Out—This Means You!" Having refreshed himself with a sandwich and a snort of lemon extract in the mess hall, he painted the sign in three hours while the troops sweated mightily in the sun on a variation of the platoon in attack.

By touching up "Today" and "Tomorrow" at the post theatre he saw the shows free; "Closed For Inventory" at the commissary won him the favor of the commissary sergeant and a free package of razor blades. So he lived a life of happy-go-lucky bohemianism while his less gifted comrades devoted themselves to the business of learning the art of war.

Our post also had a sign graveyard in a warehouse at the far end of the Quartermaster area. Here could be found defunct signs of all descriptions: C.M.T.C. signs; R.O.T.C. signs; O.R.C. signs; signs announcing the hours of Holy Church; swimming schedule signs; signs of individuals long departed and of activities and units long obsolete; and one sardonic masterpiece reading "Post No Bills." The era of the color-conscious KO with a yen for green and buff was well represented; Mrs. KO thought her potted geraniums went well with that combination. The natural-wood and black exhibit was large, beautiful and costly.

By and large, it's a harmless sort of diversion, but it does take an amount of time and effort that could well be devoted to useful projects. Perhaps, after the advent of M Day some large-souled individual will announce in a voice of brass: "No signs!" And will then qualify it by saying, "Except those absolutely necessary." A pessimist will tell you that nothing will come of this, but then, you never can tell.

THE EDITOR'S SADDLE

The Cavalry Journal in 1937

THOSE CAVALRY JOURNAL readers who have been pleased with the variety of subjects covered during 1936 will be more than satisfied with the outlook for the coming year.

The Cavalry School Digest of Information will continue to present the most recent developments and methods in effect at the Cavalry School. Among the professional articles to appear in early issues are discussions on "Technique of Fire of the Light Machine Gun," "New Cavalry Radio Equipment," "Moving Target Firing," "The Psychology of Instructing," and "Defects in Heavy Machine Gun Training and a Proposed Revision"; and student research articles on "Division Cavalry in Combat" and "Cavalry in Defense of a Locality."

Captain James A. McGuire, the author of "The Tank Ju-Ju," has just written for the CAVALRY JOURNAL a story of a Canadian horse entitled "Cayuse." Those who enjoyed his reminiscence of the World War will await eagerly Captain McGuire's account of his experience in taming this cayuse.

The author of "Portrait of a Soldier" has written another tale of the western front based on personal experience. This time it is "The Day Before Cantigny," and we hope to print it in an early number.

The 1936 Cavalry leadership Tests for Small Units have just been completed and we have been promised reports of these tests from at least two stations. They should prove of value to every cavalry officer.

Cavalry in the Foreign Military Press

FOR several years the CAVALRY JOURNAL has published a section known as "The Foreign Military Press" devoting same to foreign subjects of general military interest. It has recently occurred to us that our readers prefer more information concerning cavalry developments in other countries. Consequently, we have inaugurated in this number a change in our foreign section, devoting same exclusively to cavalry matters. Don't fail to read it.

Our Frontispiece

OUR Olympic mount frontispiece appearing in the September-October CAVALRY JOURNAL met with hearty accord. This has prompted us to give the place of honor in this number to *Dakota*, who made such a splendid showing in the Prize of Nations at the 1936 Olympics. It will be remembered that he negotiated this strenuous course with a tie for third place in the individual high score award, dropping to fifth in the final jump-off. During the 12th International Horse Show conducted at Aachen, Germany, following the Olympics, he again proved himself to be a great Prize of Nations horse, accomplishing with little apparent effort jumps six feet, eight inches in height. *Dakota* is a brown gelding, seventeen hands high, eight years old, owned by the United States Government. Major Wm. B. Bradford, captain of our 1936 Olympic Equestrian Team, says of him: "Of all our mounts, *Dakota* alone fully meets the requirements of a top international jumper, suited for the most difficult courses. . . . He has the remarkable combination of size, power, cleverness, and galloping ability required in a great Prize of Nations horse, and these have won for him the utmost respect and wide international reputation as one of the world's best."

Cavalry Association Memberships

THE past two months have registered a further increase in Cavalry Association memberships from each of the three components of our Army. Our records at the end of the year will show a healthy increase during 1936.

Rosters of Officers

A COMPLETE list of cavalry officers of the Regular Army, their assignments and addresses appears in this number. Many of our readers advised us that they enjoyed running through a similar list published a year ago, so this has been adopted as an annual feature.

A Good Example

A YOUNG officer has set an example which many other cavalrymen would do well to follow particularly during the Christmas holiday season.

In forwarding payment of his membership dues, he enclosed an additional sum covering two annual subscriptions to the CAVALRY JOURNAL, one to be sent to the Hawaiian Islands and the other to Baltimore, Maryland. No gift could be appreciated more by those interested in cavalry and the horse than a year's subscription to the CAVALRY JOURNAL.

MOUNTED SPORTS

The Inter-American Horse Show and Exhibition

By Major Frank L. Whittaker, *Cavalry*

DURING its second year the Inter-American Horse Show and Exhibition has developed into quite a lusty infant. In an article in The Cavalry Journal a year ago, Colonel Charles L. Scott, Cavalry, the secretary and manager of last year's show, explained the purpose of the show, stated how it was conceived and conducted, and concluded with definite recommendations. These recommendations were carried out and an even greater success was achieved this year.

The show grounds are located in Rock Creek Park, Maryland, just beyond the District of Columbia line. In this setting of unsurpassed beauty, there had been constructed prior to this year a jumping arena similar to that of the hippodrome at Fort Riley, in an enclosure about 350 by 400 feet. Members of this year's Olympic team who have visited the big shows in Europe have stated that this is the only plant in the United States that is of the type necessary for staging a big international show.

This year the fact that Chile was sending a team to the Garden and that Mexico, for the first time, was sending a team to this country to train at Fort Myer, made a repetition of last year's show possible. Permission was again obtained for the Army to conduct the show, while interested civilians underwrote the necessary expenses. Major Frank L. Whittaker was selected as secretary, treasurer, and manager.

Scene of the Inter-American Horse Show and Exhibition. Meadowbrook Show Grounds, Rock Creek, Maryland.

Following the recommendations of a year ago:

a. The present organization was continued and will soon be on a permanent basis as an incorporated concern.
b. A 62-horse stable was erected and 100 permanent boxes for spectators were constructed.
c. All entries were limited to ribbon-winning horses.

The possibilities of this show as anticipated last year have been more than realized. During the four days, October 22d, 23d, 24th, and 25th, 15,000 people attended with record crowds of 5,000 and 6,500 on the last two days. Interest has been heightened to the point where there is a positive demand for more international teams next year and definite assurance of adequate financial support.

The short afternoons in late October necessarily limit the number of events in a show of this nature. Further, it was found that 1:00 P.M. was too early for most persons and, as a result, many missed the opening event. This year the balanced program for each day provided for one international event, one interstate event, one open jumping class, two hunter classes and a dressage exhibition, with the opening event scheduled for 2:00 o'clock. This worked very satisfactorily, except that the large number of entries in the open jumping classes made it clear that these classes will require a further limitation next year.

The three military teams and horses were:

CHILE

Riders

Captain Eduardo Yanez (Team Captain)
Lieutenant Pelayo Izurrieta — Lieutenant Rafael Montti
Lieutenant Luis Perez

Mounts

Tonada	Cacique	Andina
Copihue	Toqui	Torcaza
Xisme	Chilena	Salitrera

MEXICO

Riders

Captain Armando Villareal (Team Captain)
Captain Florenzio Lazo — Captain Francisco de la Rosa
Captain Taurino Barriga — Captain Amaury Quiroz
2d Lieutenant Joaquin S. Chagoya

Mounts

Azteca	Mayab	Muchacho
Donaji	Fronterico	Tizoc
Quetzalcoatl	Licor	Vencetor
Tolteca	Valiente	

UNITED STATES

Riders

Major J. Tupper Cole, 9th Cavalry (Team Captain)
Major Hiram E. Tuttle, Quartermaster Corps
Captain Milo H. Matteson, 9th Cavalry
Captain Harold S. Isaacson, Field Artillery
1st Lieutenant Raymond W. Curtis, 9th Cavalry
1st Lieutenant Franklin F. Wing, 9th Cavalry
1st Lieutenant James O. Curtis, Jr., 9th Cavalry

Mounts

Dakota	Wampum	Billy the Kid
Don	Dinger	Renzo
Ugly	Masquerader	Podhorski
Ansonia	Fralax	Blackie
Joe Aleshire	Virginia Navarre	

Chile won the first day of the international event with 8 faults against 11½ for the United States and 31½ for Mexico. *Tonada* and *Xisme,* of Chile, and *Renzo,* of the United States, jumped clean. *Don* had 3½ faults and *Ugly,* 8. But for slipping on the last turn *Dakota* would probably have also been clean to place the United States first, but by losing his rider and piling up time faults he scored 20 faults.

On this day Maryland won the Interstate Jumping and *Dinger* was first in the open jumping class.

Friday found the interest centered on the International Individual Jumping. Over an extremely difficult course of 14 jumps, 4 to 5 feet high, *Blackie,* of the United States team, and *Mayab,* of the Mexican team, jumped clean to tie for first. In the jump-off over six jumps raised 3 to 6 inches in height *Mayab* won by 1/5 of a second, *Blackie* was second, *Toqui,* of Chile, third, and *Azteca,* of Mexico, fourth.

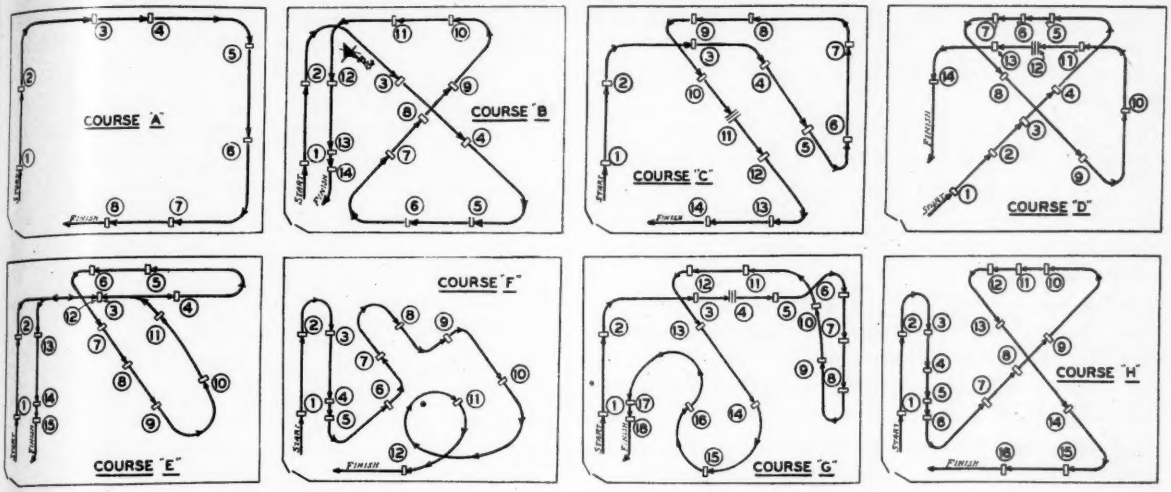
I think everyone present was pleased at the success of the Mexicans in this event. This was their first international competition. Their horses as a group were not up to those of the other teams and their chances of winning the team event were slim. They showed their class as individuals, however, and took back to Mexico the beautiful bronze figure of a vaquero especially brought from Chile by the Chilean team for this event.

In the $250 added jumper stake, *Dakota* showed why he is considered one of the four or five best jumping horses in the world. Again over a difficult course he went clean and in the jump-off added $250 to the winnings of his team. In this event, the United States team took 1st with *Dakota,* 3d with *Renzo,* and 6th with *Ugly,* while the Chileans had to be satisfied with 4th. Mexico did not enter.

Saturday, Maryland Day, saw a resumption of the International Team Jumping. With every seat filled, the flag of the United States was raised to the top of the flagpole at the end of the International event. *Ugly, Renzo,* and *Don* piled up 18½ faults, while *Dakota* was out with 18 of his own. The Chileans, however, slipped badly to a total of 30, placing the United States in the lead for the two days. The fact that the best Chilean horse, *Xisme,* injured herself in a fall at the double oxer the day before lowered their chances greatly.

The District of Columbia went into the lead in the Interstate Team Event largely by virtue of a beautiful ride by Miss Margaret Cotter, on her great jumper *Rocksie,* who completed the course with 1½ faults. *Billy the Kid,* of the United States team, was first in the Handy Jumpers, and Mrs. John Hay Whitney continued to dominate the hunter classes by taking five out of six places in the Hunter Stake.

Sunday was the big day. Every seat was sold out Sat-



Courses used at the Inter-American Horse Show and Exhibition.

Course A

1. Brush
2. Gate
3. Cordwood and Pole
4. Aiken
5. Snake Fence
6. Aiken
7. Wall and Pole
8. Logs and Pole

Course B

1. Brush
2. Gate
3. Water
4. Ramp
5. Wall and Pole
6. Logs and Pole
7. Ditch with Pole
8. Detour Sign
9. Bank
10. Aiken
11. Cordwood and Pole
12. Chicken Coop and Pole
13. In and
14. Out

Course C

1. Brush
2. Gate
3. Wall
4. Pole Fence
5. Swedish Fence
6. Aiken
7. Snake Fence
8. Aiken
9. Cordwood and Pole
10. Water
11. Hog Back
12. Ramp
13. Wall with Pole
14. Logs with Pole

Course D

1. Brush
2. Ditch and Pole
3. Detour Sign
4. Bank
5. Aiken
6. Wall
7. Cordwood and Pole
8. Water
9. Ramp
10. Liverpool
11. Double Oxer
12. Hog Back
13. Gate
14. Chicken Coop and Pole

Course E

1. Brush
2. Gate
3. Gate
4. Double Oxer
5. Aiken
6. Cordwood and Pole
7. Water
8. Wall
9. Ramp
10. Swedish Fence
11. Pole Fence
12. Gate
13. Chicken Coop and Pole
14. In and
15. Out

Course F

1. Brush
2. Gate
3. Chicken Coop and Pole
4. In and
5. Out
6. Ditch with Pole
7. Wall
8. Water
9. Bank
10. Swedish Fence
11. Ramp
12. Logs with Pole

Course G

1. Brush
2. Gate
3. Gate
4. Hog Back
5. Double Oxer
6. Snake Fence
7. Picket Fence
8. Aiken
9. Liverpool
10. Detour Sign
11. Aiken
12. Cordwood
13. Water
14. Ramp
15. Logs and Pole
16. Ditch with Pole
17. In and
18. Out

Course H

1. Brush
2. Gate
3. Chicken Coop and Pole
4. Wall
5. In and
6. Out
7. Ditch and Pole
8. Detour Sign
9. Bank
10. Aiken
11. Gate
12. Cordwood
13. Water
14. Ramp
15. Wall and Pole
16. Logs with Pole

urday afternoon and 350 additional reserved seats were taken by noon. With 4,500 seats and people 5 deep around the rail, an estimated attendance of 6,500 was conservative.

First came the working hunters class, won by Captain Henri A. Luebbermann's *Billy;* then the open jumping class, taken by U. S. Randle's *Randle's Way;* the hunt teams, won by Mrs. Whitney's beautiful gray team; and then time was taken out for the awarding of the trophies to Mrs. Whitney's *Gray Knight,* that grand old campaigner, as hunter champion, with her *Spring Hope* in reserve; and the trophy for the champion jumper of the show to Fenton Fadeley's *Lacquer Lady,* a mare who has been in training only a little over a year.

Next came the Interstate Class, again won by the District of Columbia, whose aggregate score placed them the winner of the three-day competition, with Maryland second, and Virginia a poor third. This event, splendid as it was, only whetted the appetites of the crowd for the real *pièce de résistance* of the show, the final event in the International Team Jumping. Before the class started Sunday afternoon the total scores were: United States, 30; Chile, 38; and Mexico, 66½. While the same four horses were required to jump each day, Chile was forced to substitute for two of her best horses and Mexico could not use *Mayab,* which had won the International Individual Jumping. A glance at Course H will show what these horses had to do. All jumps were between 4 and 5 feet in height with No. 4 at 5 feet, No. 5 at 4 feet, 6 inches, and No. 6 at 5 feet for a triple in-and-out, the

ditch and pole at 4 feet, 6 inches, the detour sign at 4 feet, 1 inch, the Aiken (No. 10) at 4 feet, 6 inches, the gate at 4 feet, 6 inches, the fence at 4 feet, the triple bar over water, 4 feet, 6 inches, the ramp at 5 feet, No. 15 at 4 feet, 6 inches, and the final jump at 5 feet. The course was 500 yards long, which, at a rate of 400 meters per minute, gave a time allowance of 1 minute, 25 seconds. It was truly a test of horse and, as far as is known, the biggest and longest course of jumps ever set up for competition in this country.

Ugly started badly with 16 faults and 1 second overtime, *Donaji*, for Mexico, could do no better and *Chilena*, of Chile, with fine disregard for the really big in-and-out, took everything with it for 24 faults. *Renzo* then followed with 8, *Valiente*, of Mexico, with 16, and *Salitrera*, of Chile, with 32. *Don* slipped going into the in-and-out and piled up 12 faults there, winding up with a total of 22; but when *Don Juan* added 16 to the Mexican score and *Tonada* 12 to that of the Chileans, it was apparent that the United States had the class won. Each team jumped a fourth horse, however, for the three outstanding performances of the day, and the show. Apparently determined to live up to his press notices, *Dakota* made a finished performance. It was truly remarkable to see him gallop along in his clownish, lackadaisical manner, pay little attention to the obstacle and then fence easily and smoothly like the superb athlete he is, making the hard ones look easy. As he cleared fence after fence the crowd rose to its feet, helping him over every jump. This proved his undoing, however. Going to the last jump, he watched the crowd all the way, despite the effort of Major Cole to turn his head to the jump, and the groan from the crowd as he took down the top rail was really heartfelt. *Toqui*, of Chile, with that splendid sportsman and horseman, Captain Yanez, up, then repeated *Dakota's* effort in better time but it was left for *Azteca* of Mexico under the skillful riding of Captain Villareal, the captain of the Mexican team, to turn in the best score of the day. Clearing the last jump he finished with ¼ fault for overtime.

The closing ceremony was Retreat and, as the flag came down to the strains of the National Anthem, the second Inter-American Horse Show and Exhibition was over.

Nothing has been said so far in this article about Major Tuttle and his two dressage horses, *Si Murray* and *Olympic*. His splendid exhibition each day proved a pleasing contrast to the jumping. Many people had seen him last year and came especially to see his exhibition this year. To anyone who believes that "dressage" is over the heads of the public, I can only say that a visit to this show this year would have been convincing proof of the error of this thought. Properly explained, it was one of the most interesting and outstanding features of the show.

The Military Division, 53d National Horse Show

By Major J. Tupper Cole, *9th Cavalry*

IN every respect this year's great National Show has been the most brilliant of its long successful history. With an estimated attendance of 130,000, all previous records were eclipsed. Well over 2,000 entries established a new high which necessitated full morning sessions and gave Mr. Ned King, the National's great manager, many uneasy moments. Mr. King whipped the huge classes along and kept his great show on time. All divisions of the show were represented by great horses from all parts of the country, which caused the judging personnel to think well and carefully before making an award. Old champions fell and new ones were crowned by these carefully selected, impartial gentlemen of wide experience in their particular fields of activity.

In the Military Division, the National gathered its largest representation in history and these seven nations put up the greatest competitions ever seen in this country:

British Army Team

Major A. L. Cameron, *Captain;* Captain Sir Peter Grant-Lawson, Captain R. G. Fanshawe, Lieutenant J. A. Talbot-Ponsonby.

French Army Team

Captain Pierre Clave, *Captain;* Captain Francois Durand, Lieutenant Amador de Busnel.

Chilean Army Team

Captain Eduardo Yanez, *Captain;* Lieutenant Rafael Montti, Lieutenant Pelayo Izurieta, Lieutenant Luis Perez.

Swedish Army Team

Captain Ernst Hallberg, *Captain;* Lieutenant Stig Holm, Lieutenant Herbert Sachs.

Irish Free State Team

Captain Daniel Corry, *Captain;* Captain Fred Ahern, Captain Cyril Harty, Captain John Lewis.

Dominion of Canada Team

Captain Stuart C. Bate, *Captain;* Colonel R. S. Timmis, Lieutenant Marshall Cleland, Lieutenant Douglas Cleland.

United States Army Team

Major J. Tupper Cole, 9th Cavalry, *Captain;* Captain Harold S. Isaacson, Field Artillery, Captain Milo H. Matteson, 9th Cavalry, 1st Lieutenant Raymond W. Curtis, 9th Cavalry, 1st Lieutenant James O. Curtis, 9th Cavalry, 1st Lieutenant Franklin F. Wing, 9th Cavalry.

Every one of the five great classes is a story in itself and the following is a brief outline of the highlights of each.

High Score Competition

On opening night, Wednesday, the first event of the high score competition started. Two officers from each nation competed, each jumping two horses, the total score of the four horses giving the nation its initial standing. The United States started Captain Matteson on *Ugly* and *Masquerader* and Lieutenant Raymond W. Curtis on *Don* and *Ansonia*. While otherwise an easy

course, there was one very difficult oxer which added 16 faults to each team's score. Not a single horse went clear and only two horses seemed to be able to figure it out so as to make a decent jump. They were *Red Hugh* of the Irish Team and *Ansonia* from our own. In this class France placed first with 19 faults. Tied for second with 23 faults each, came the British, Chilean, and United States teams. Next came Canada with 29 faults, the Irish Free State with 34 faults and Sweden with 41 faults.

The second phase of the competition came the following night. Each nation was allowed to enter two pairs shown abreast over Course C, the score of the better pair to count. The United States entered *Blackie* and *Ansonia* ridden by Lieutenants Wing and James O. Curtis, and *Ugly, Don,* and *Dakota* with Captain Matteson, Lieutenant Raymond W. Curtis, and Major Cole up.

France, Canada, Sweden, Irish Free State, and the United States all went without penalty while the British were scored with 3 faults and Chile was eliminated. France scored a well-deserved win, taking the cup presented by his Excellency Arturo Allesandri, President of Chile, from the United States team, last year's winner. A recapitulation of scores made by those placing in this class follows:

	1st Phase	*2d Phase*	*3d Phase*	*Total*
1. France	19	1/2	0	19½
2. United States	23	0	0	23
3. Canada	29	5½	0	34½
4. Irish Free State	34	2½	0	36½

Military Teams at the 1936 National Horse Show. Carl Klein

Wampum and *Renzo* ridden by Major Cole and Lieutenant James O. Curtis. *Wampum* and *Renzo* came through with a perfect round which was tied by the round of Captain Hallberg and Lieutenant Sachs of Sweden. Captain Clave and Lieutenant de Busnel of France were next with a ½ fault penalty, Chile with 1½ faults, Ireland 2½ faults, Canada 5½ faults, and the British 15½ faults. Thus, coming into the third phase, the nations stood as follows: France 19½ faults, United States 23 faults, Chile 24½ faults, Canada 34½ faults, Irish 36½ faults, the British 39½ faults and Sweden 41 faults.

In the final phase shown on Friday night, each nation entered three horses and three riders, showing as a hunt team over the same course which the pairs jumped the night before. The United States' horses chosen were

The Bowman Cup

The next military class shown was the Bowman Cup, presented by the late John McEntee Bowman, Esq. An elimination was run on Friday morning, and the twelve best were chosen to jump for the Cup the following night. This class was the only time class of the show. The United States' horses were decidedly off in the preliminary class and only one was qualified, *Blackie,* ridden by Lieutenant Wing. Canada qualified four horses, the British and French two each, and Ireland, Chile, and the West Point horse show team, one each. In the finals, Captain Fred Ahern on *Gallow Glass,* of Ireland, looked the winner with a first clear round in 34 seconds. Then came Captain Clave of France on *Volant III,* also clear in 33 seconds. The United States' hopes went when *Blackie*

just touched the last fence causing a fault though he had tied the time of *Volant III*. His performance was good enough for third place, however, and *Welcome*, with Lieutenant de Busnel of France was the fourth horse in the class. Lieutenant Wing's ride in this class was splendid. His horse was decidedly outclassed and only by a heady, accurate ride was his horse placed at all.

The Military Stake

On Sunday night came the $1,000.00 Military Stake. Each nation had entered five or six horses over Course J, a rather stiff course. Excellent jumping ensued with fourteen horses having a clear round. *Ansonia*, *Don*, *Renzo*, and *Dakota* were left in the money. The fences were raised and *Ansonia* again went clear. With him was *Volant III* ridden by Captain Clave of France. All the other clear horses faulted on the second round with *Don* of the United States team being the least penalized with 3 faults. Again the fences were raised, and Lieutenant James O. Curtis brought *Ansonia* around with 8 faults. Captain Clave scored the win with *Volant III* with 4 faults. Lieutenant Curtis rode *Ansonia* for everything the horse had. *Volant III* simply outclassed *Ansonia*, being a better bred and much more active horse. The last three places were decided on a toss, the class results being as follows: 1, France; 2, United States; 3, United States; 4, British; 5, Canada; 6, British.

Individual Military Championship

The Show was nearing the end, and the horses and riders had been having a lot of jumping and plenty of nerve strain. It did not show up in the jumping on Monday night, however, as the nations each entered three horses and riders for Mr. Alfred B. Maclay's cup to the Individual Military champion. This class required five rounds to decide who was who at that particular time. To give an example of the fine jumping produced in this class, the staggered "double in and out," 30 feet between fences with the middle fence completely off set, stood at 4′ 9″, 4′ 6″ and 5′. Other jumps of the course were correspondingly raised, and in a small indoor ring considerable horse is needed for a clear round. The class finally came out with a brilliant win for England with *Kineton* ridden by Lieutenant Talbot-Ponsonby. Pressing hard on the heels of the British horse came the game and brilliant little 14-3 hand *Toqui* of the Chilean team, beautifully ridden by Captain Yanez, with third place to *Margot* of Canada ridden by Lieutenant Douglas Cleland, and fourth to *Dakota* ridden by Major Cole.

Cup Class

As a fitting climax to a great show, Cup Class was the greatest duel of all, the perpetual challenge Trophy, presented by Mr. J. Spencer Weed, President of the National Horse Show Association of America. Four horses and riders of each nation to start, with the combined score of the three best horses being counted as the score of each nation.

The following tabulation tells the story of three exciting rounds that kept the crowd of 15,000 at the Garden in a state of hysteria throughout the class:

1ST. GREAT BRITAIN

Mount	*Rider*	*1st Round*	*2d Round*	*3d Round*
Norah	Capt. Fanshawe	0	0	3
Blue Dun	Maj. Cameron	0	4	0
Baby	Capt. Grant-Lawson	13	4	4
Kineton	Lt. Talbot-Ponsonby	0	4	0
	Total (3 Best)	0	8	3

2D. IRISH FREE STATE

Red Hugh	Capt. Corry	0	4	0
Duhallow	Capt. Harty	0	4	4
Limerick Lace	Capt. Lewis	4	8	4
Gallow Glass	Capt. Ahern	0	0	0
	Total (3 Best)	0	8	4

3D. UNITED STATES

Ugly	Capt. Matteson	0	8	0
Ansonia	Lt. James O. Curtis	0	0	4
Don	Lt. Raymond W. Curtis	0	8	3
Dakota	Major Cole	0	0	4
	Total (3 Best)	0	8	7

4TH. CHILE

Xysme	Capt. Yanez	0	4	OUT
Chilena	Lt. Montti	0	8	
Tonada	Lt. Izurieta	4	4	
Toqui	Capt. Yanez	0	7	
	Total (3 Best)	0	15	

France, Canada, and Sweden all faulted on their first round and were eliminated. When the final round was reached, the old familiar Course A looked as it had never looked before. Nearly all fences were hung at the top of the standards and still these fine jumpers were going with as much power as when they started. Without doubt this class was the most spectacular and hotly contested cup class in the history of indoor competition. It was anybody's class, and any nation can well be proud of having its team in the ribbons.

Throughout the competitions, it was evident that the Irish horses were not right. A long campaign of jumping big fences at speed on the continent is not conducive to the handiness and cleverness necessary for indoor courses with fences closely spaced. The United States horses showed the effect of their recent European tour, also, but to a lesser degree. Both teams were regaining their indoor form rapidly towards the end of the show.

Messrs. J. Spencer Weed, president of the National; Adrian Van Sinderen, chairman of the executive committee; Whitney Stone, secretary; and Ned King, manager; were tireless in their efforts to coördinate the many activities of this great show. Their splendid success is now history and their satisfaction should be great. To these gentlemen the military teams owe a debt of gratitude.

1st Cavalry Division Horse Show

THE 1st Cavalry Division Horse Show Association held its sixteenth annual Horse Show at Fort Bliss, Texas, in October.

The show was the most successful in the long history of this interesting exhibition of equestrian events. From its opening on October 21st through the final event late Saturday evening, October 24th, approximately 600 horses were exhibited in the various classes and divisions of the show. The weather was fair and the largest crowd ever to attend witnessed the events from the picturesque Howze Stadium and the Rim Rock overlooking the natural hunter course south of the polo field.

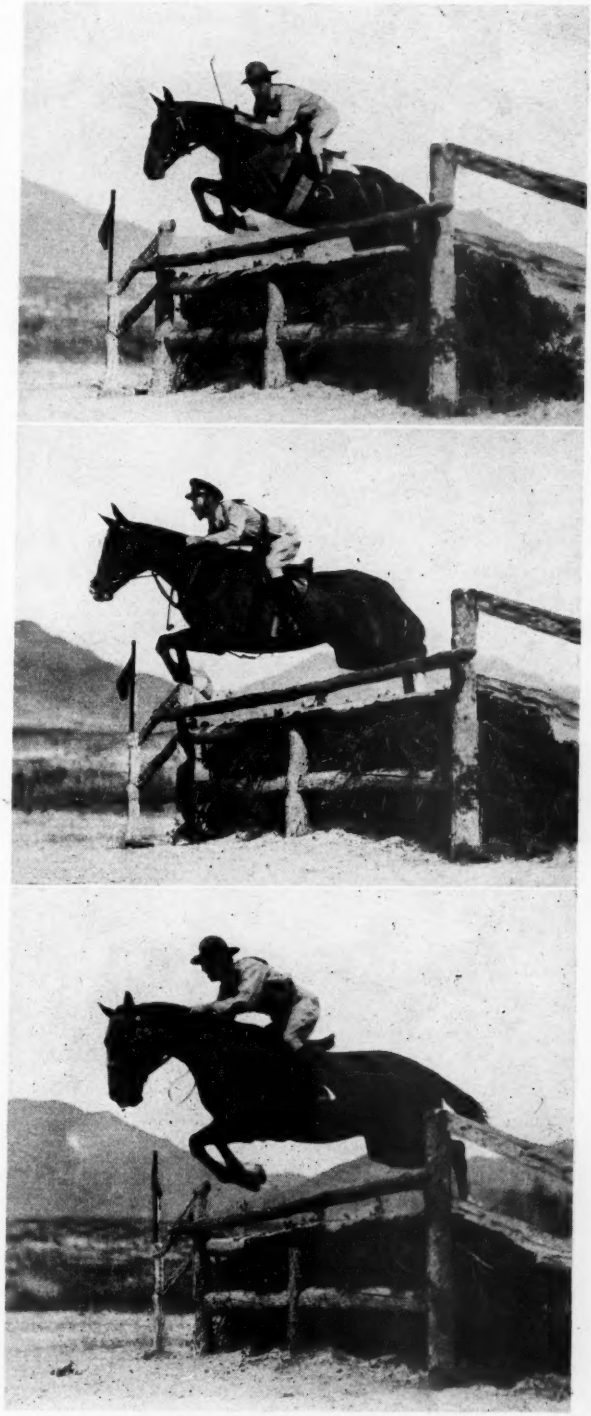
Competition in all classes was keen and the judges were often "hard put" to select the winners. The judging this year was handled by four distinguished horsemen from army posts outside the division. The senior judge was Lieutenant Colonel Wm. M. Grimes, executive officer of the 2d Cavalry, a well-known hunter-judge throughout the East. He was assisted by Major George D. Shea, Field Artillery, of the Field Artillery School at Fort Sill, Major Rinaldo Coe, cavalry instructor at the Field Artillery School, and Major Oliver I. Holman, Cavalry, on duty with the Phoenix Union High School, Phoenix, Arizona.

The entire 1st Cavalry Division was represented. A car load of horses came from the 12th Cavalry at Forts Brown and Ringgold and the 5th Cavalry at Fort Clark, Texas. These horses combined with the horses of the division units stationed at Fort Bliss provided the inter-unit competition that made possible the friendly rivalry that was evident throughout the horse show.

In the civilian classes there was a larger representation than ever before. Approximately fifty civilians mounted on their own horses took part in the show. Their participation was not limited to classes for civilians only. They also exhibited and did well in many of the classes for officers to which all civilian entries were eligible.

In the Hunter Division, *High Hat* owned by Lieutenant Colonel Harry D. Chamberlain, was declared the Hunter Champion. His showing in Ladies' Hunters, Lightweight Hunters, and Corinthian Classes easily marked him as the outstanding hunter in the show.

The Jumper Championship carrying the Division Commander's Trophy, one of the most coveted awards of the show, was won again by *Sonny Boy*, a ten-year-old bay gelding whose manner of going and performance over the big courses distinguished him as the best jumper in the show. This is the third time *Sonny Boy* has placed in the Jumper Championship within the last four years. In 1933 he was declared Jumper Champion of the Division; in 1935 he was Reserve Jumper Champion taking second place to an old First Dragoon stable mate, *Bashful*, now in the 8th Cavalry. In addition to his outstanding jumping in the big classes that gave him the Jumper Championship this year, he won first place in

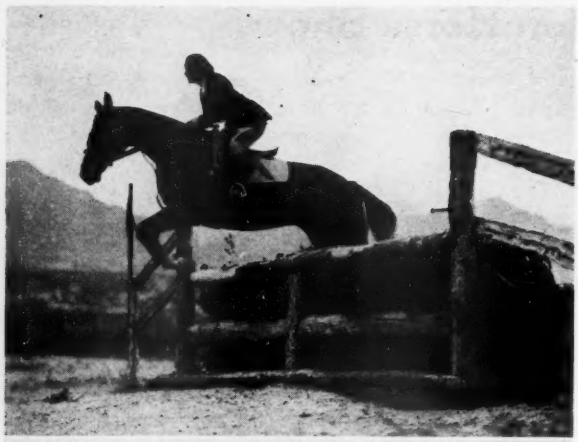


AT 1ST CAVALRY DIVISION HORSE SHOW

UPPER: *2d Lieut. Theodore F. Hurt, Jr., 8th Cavalry, on* Tramper.

CENTER: *1st Lieut. Angelo R. Del Campo, 5th Cavalry, on* Major.

LOWER: *2d Lieut. Caesar F. Fiore, 7th Cavalry, on* Uncle Bim.



SOME WINNERS AT 1ST CAVALRY DIVISION HORSE SHOW

UPPER: *Miss Betty Stickman on* High Hat.

CENTER: *Maj. John C. Macdonald, 1st Cavalry Division, on* Sonny Boy.

LOWER: *Captain Chas. H. Valentine, 8th Cavalry, on* Roy.

the Ladies' Jumpers, carrying Miss Betty Stickman around the course for a perfect performance.

Best horse in the show, winner of the Joyce Trophy, was won by *High Hat*, Colonel Chamberlain's beautiful thoroughbred chestnut gelding, who showed his right to the distinction by his work in the Hunter Division, his showing in the jumping and gaited classes, and his exhibition of schooling under the direction of his master, Colonel Chamberlain.

In the Polo Classes honors were well divided. *Mike* of the 5th Cavalry, ridden by Captain Carleton Burgess was declared the best playing pony in the 1st Cavalry Division Senior Polo Tournament which finished just as the horse show ended.

The Jumper Championship for enlisted men was won by *Buddy*, ridden by Sergeant Owens, Troop A, 5th Cavalry. 1st Sergeant Witaski, Troop B, 7th Cavalry, riding *Rising Star* was awarded Reserve Jumper Champion.

All classes in the show were well filled. The families' gaited classes, the children's gaited classes, the parent and child jumping and the ladies' and children's jumping were beautiful classes and added color to the show.

The winners follow:

Equestrian Teams Fund Sweepstakes: *Sonny Boy* ridden by Major John C. Macdonald, 1st Cavalry Division.

Open Jumping (Enlisted Men): *Kaiser* ridden by Corporal Sanders, Troop F, 8th Cavalry.

Ladies' Jumpers: *Sonny Boy* ridden by Miss Betty Stickman.

Novice Jumpers (Officers and Civilians): *Rabbitt* ridden by Major Harry A. Buckley, 12th Cavalry.

Novice Jumpers (Enlisted Men): *Husky* ridden by Sergeant Overland, Troop A, 8th Cavalry.

Teams of Jumpers, Inter-Unit: *Major* ridden by 1st Lieutenant A. R. Del Campo, 5th Cavalry; *Buddy* ridden by Sergeant Owens, Troop A, 5th Cavalry; *Bobo Baxter* ridden by Sergeant Giles, M.G. Troop, 5th Cavalry; *Abie* ridden by Sergeant Mucciante, Troop F, 5th Cavalry.

Teams of Jumpers (Enlisted Men): *Goat* ridden by Sergeant Long, Troop A, 7th Cavalry; *Brown Arrow* ridden by Sergeant Shrout, Troop A, 7th Cavalry; *Chick* ridden by Private Wright, Troop E, 7th Cavalry.

Fault or Disobedience and Out (Officers and Civilians): *Show Baby* ridden by Captain Robert L. Howze, Jr., 7th Cavalry.

Fault or Disobedience and Out (Enlisted Men): *Buddy* ridden by Sergeant Owens, Troop A, 7th Cavalry.

Children's Jumpers: *Harold V* ridden by Master Tom Polk.

Parent and Child Jumpers: *Entry* ridden by Lieutenant Colonel Harding Polk, 7th Cavalry; *Entry* ridden by Master Tom Polk.

Civilians' Jumpers: *Westland* ridden by Mrs. Grepe.

Handy Jumpers (Officers and Civilians): *Sonny Boy* ridden by Major Macdonald, Cavalry.

Handy Jumpers (Enlisted Men): *Rising Star* ridden by 1st Sergeant Witaski, Troop B, 7th Cavalry.

Green Jumpers (Officers and Civilians): *Tramper* ridden by 2d Lieutenant Theodore F. Hurt, Jr., 8th Cavalry.

Green Jumpers (Enlisted Men): *Blanco* ridden by Sergeant Pritchett, Battery A, 82d Field Artillery.

Jumper Championship (Officers): *Sonny Boy* shown by Major John C. Macdonald, 1st Cavalry Division.

Jumper Championship (Enlisted Men): *Buddy* shown by Sergeant Owens, Troop A, 5th Cavalry.

Civilians' Three-Gaited Riding Horses: *Westland* ridden by Mrs. Grepe.

Ladies' Three-Gaited Riding Horses: *Reno Gold* ridden by Miss Swift.

Children's Horsemanship (Under 12 years): *Blue Moon* ridden by Miss June Bowers.

Children's Horsemanship (Over 12 years): *Dusty W* ridden by Master Tom Shrout.

Families' Three-Gaited Riding Horses: *Belle Isle* ridden by Miss Swift; *Hannibal* ridden by Miss Swift; *Silver* ridden by Colonel Swift, 8th Cavalry.

Enlisted Men's Three-Gaited Riding Horses: *High Fly* ridden by Private Drake, Machine Gun Troop, 7th Cavalry.

Hunters Middle and Heavyweight: *Little Pal* ridden by 2d Lieutenant Harry E. Lardin, 7th Cavalry.

Hunters Lightweight: *Tramper* ridden by 2d Lieutenant Hurt, 8th Cavalry.

Ladies' Hunters: *High Hat* ridden by Miss Betty Stickman.

El Paso Hunt Club Hunters: *Booger* ridden by Mrs. Chella Maloney.

Hunt Teams: *Fleeter* ridden by Major Harold E. Eastwood, 8th Cavalry; *Tramper* ridden by 2d Lieutenant Theodore F. Hurt, Jr., 8th Cavalry; *Roy* ridden by Capt. Chas. H. Valentine, 8th Cavalry.

Corinthian: *High Hat* ridden by Lieutenant Colonel Harry D. Chamberlain, (Cavalry) G.S.C.

Hunter Championship: *High Hat* shown by Lieutenant Colonel Chamberlain, (Cavalry) G.S.C.

Lightweight Playing Polo Mounts: *Norma* ridden by 2d Lieutenant Hurt, 8th Cavalry.

Middle and Heavyweight Playing Polo Mounts: *Pride* ridden by Captain Ralph F. Ireland, 5th Cavalry.

Novice Polo Mounts: *Star Witness* ridden by Captain Howze, 7th Cavalry.

Polo Bending Race: *Pet* ridden by Captain Clark L. Ruffner, 5th Cavalry.

Officers' Schooling: *Brownie* ridden by 2d Lieutenant Hurt, 8th Cavalry.

Enlisted Men's Schooling: *Yankee* ridden by Corporal Sanders, Troop F, 8th Cavalry.

Remount Class: *Cloudy* ridden by Sergeant Shrout, Troop A, 7th Cavalry.

Best Horse in Show: *High Hat* shown by Lieutenant Colonel Chamberlain, (Cavalry) G.S.C.

Artillery Gun Teams Class: Battery B, 82d Field Artillery.

Polo Teams: 5th Cavalry.

JUMPING AT 1ST CAVALRY DIVISION HORSE SHOW
UPPER: *Sgt. C. E. Long, Troop A, 7th Cavalry, on* Goat.
CENTER: *Corp. Hutson, Troop E, 7th Cavalry, on* Sinbad.
LOWER: *Sgt. Goodreau, Troop E, 8th Cavalry, on* Dixie.

Artillery Reel and Cart Team: Headquarters Battery and Combat Train, 1st Battalion, 82d Field Artillery.

Fort Meade-Black Hills Horse Show

THE annual Fort Meade-Black Hills Horse Show held at Fort Meade, South Dakota, on October 15th, 16th, and 17th, featured new horses and new men. Government horses were restricted to two events for the three-day period. Strict requirements for novice and enlisted men's classes insured that a large proportion of the entries were from young or untried animals, with riders from newly joined recruits or older men without horse show experience. The result was the most varied turnout of horses and riders ever seen at a similar event here, and the interest and competition displayed increased in proportion. A strong effort was made to include civilian entries from among the many breeders in the vicinity, and the results were encouraging.

The winners were:

Private Jumpers: Private, First Class Clark, Troop F, on *Blacksea.*

Lightweight Polo Ponies: 2d Lieutenant Jackson B. Williams on *Babe.*

Novice Jumpers: 2d Lieutenant Alexander B. Sheridan on *Sis.*

Enlisted Men's Novice Jumping: Corporal Campbell, Troop F, on *Blacksea.*

Non-Commissioned Officers Jumping: Corporal Ogden, Machine Gun Troop on *Bison.*

Officers Chargers: Captain Rufus L. Land on *Foxy.*

Pack Jumping: Sergeant Graham, Troop F, on *Freckles;* Pack Horse: *Frank.*

Middle and Heavyweight Polo Ponies: Captain John H. Stodter on *Kitty K.*

Polo Pony Championship: Lieutenant Williams on *Babe.*

Officers Open Jumping: 1st Lieutenant Charles P. Bixel on *Mad Sister.*

Slow Mule Race: Private Koch, Headquarters Troop.

Hunters: 2d Lieutenant Edward W. Sawyer on *Bon Bon.*

Reserve Officers Jumping: 2d Lieutenant Donald D. McGregor on *Oscar.*

Best Turned Out Trooper: Private, First Class, Steensgaard, Troop E, on *Lobo.*

Troopers Mounts: Corporal Medlock, Troop E, on *Chester.*

Road Hacks: Mrs. John H. Stodter on *Kitty K.*

Novelty Jumping: Corporal Burns, Troop F, on *Big Tony.*

Handy Hunters: 1st Lieutenant Carroll H. Prunty on *Snip.*

Green Polo Pony: 1st Lieutenant Bixel on *Dash.*

Fort Oglethorpe Equestrian Sports

FOLLOWING three informal horse jumping competitions which were held on September 12th, September 26th and October 17th, a series of equestrian sports was staged on Friday, Saturday and Sunday, October 30th—November 1st.

The week-end program included:

Friday: Hunter trials, hunt teams, hound races.
Saturday: Horse show.
Sunday morning: Drag hunt.
Sunday afternoon: Polo game.

Winners:

Hunter Trials: Major Rufus S. Ramey.

Hunt Teams: Captains Garnett H. Wilson, Walter Burnside, 1st Lieutenant Wm. E. Chandler.

Private Jumping: Private Henry, Headquarters Troop.

Novice Jumping: 2d Lieutenant Robt. B. Lincoln.

Touch and Out (Soldiers): Sergeant Robinette, Troop E.

Children's Class: Miss Katherine Hamby.

N.C.O. Juimpng: Sergeant Robinette.

Three-Gaited Class: Mr. T. B. Walker.

Plantation Horse: Mr. T. B. Walker.

Mule Stake Race: Corporal Linville, Troop F.

Touch and Out (Officers): 2d Lieutenant John F. Franklin.

Handicap Jumping: Miss Sally Wilson.

Miss Sally Wilson who won the Handicap Jumping event listed above is the fourteen-year-old daughter of Captain and Mrs. Garnett H. Wilson. She negotiated the difficult course of jumps without a fault and handled her good mount *Tommy Roberts* like a veteran.

4th Cavalry Polo

THE sending of a polo team to Fort Snelling to participate in a revival of the well known annual Twin Cities Polo Tournament, held from September 20th to 27th, marked Fort Meade's most serious polo undertaking in several years. The team included two civilians, Mr. T. B. Thorson of Rapid City who played No. 1, and Mr. O. F. Hanson, No. 4. First Lieutenant Charles P. Bixel played No. 2, and Captain John H. Stodter was substitute. The team was captained by Captain Wm. S. Biddle, who played No. 3. The team handicap was 5 goals.

Our players went into action on September 21st against the Twin Cities team of civilians. The final score was 6 to 5 in favor of Twin Cities, and while there was the natural regret of defeat, there was also, for our players, considerable satisfaction in the splendid performance of

most of our ponies, in having made a good showing against an admittedly strong team, and in having played in what many onlookers considered the fastest and most open game seen at Fort Snelling in some years. On September 24th, a practice game was played against Eau Claire (Wisconsin) and on September 27th the team lost the Gonsolation Finals to Pierre (South Dakota).

Upon the return of the team from Fort Snelling, plans were completed for the staging of a local Round-Robin Tournament, bringing into action the 15 active playing members of our Club. Captain Stodter, Lieutenant Bixel, and Captain Biddle, in order named, selected teams, by successive choice, the teams being named, respectively, Whites, Blues, and Yellows, as follows:

Whites: Major John T. Minton, 1; Captain John H. Stodter, 2; 2d Lieutenant Kelso G. Clow, 3; Mr. O. F. Hanson, 4; 2d Lieutenant Alexander P. Sheridan, sub.

Blues: Mr. T. B. Thorson, 1; 1st Lieutenant Charles P. Bixel, 2; Captain Rufus L. Land, 3; 2d Lieutenant Edward W. Sawyer, 4; 2d Lieutenant John F. Rhoades, sub.

Yellows: 2d Lieutenant Daniel E. Still, 1; 2d Lieutenant Jackson B. Williams, 2; Captain Wm. S. Biddle, 3; Captain L. P. Veigel, 4; 2d Lieutenant David B. Whittington, sub.

Three games were played, on Sunday, October 11th, Wednesday, October 14th, and Sunday, October 18th. A gratifying interest in the tournament was shown by the garrison and by residents of the Black Hills, the Sunday games being particularly well attended. The Yellow team proved the strongest of the three, winning both its games, to annex the post championship. The Whites were next with one victory and one defeat, and the Blues third with two defeats. All games were closely fought, and, considering the inexperience of many of our players, were reasonably well played. Lieutenant Colonel Edwin O'Connor acted as referee throughout the tournament. Majors Elwood L. Nye, Geoffrey Galwey, Hans C. Minuth, and Philip R. Upton, and 1st Lieutenant Thomas F. Taylor, shared in the duties of umpires. After the final game, Mrs. O'Connor presented goblets to the members of the Yellow team.

Since winter set in immediately following the Tournament, the outdoor season was declared closed. A polo class has been organized, to meet regularly throughout the winter. Green ponies are being trained, in the riding hall; and the young players are being taught to hit, in the gymnasium. Indoor polo will be undertaken when green ponies and novice players have made sufficient progress. We hope that we shall have much to show for our labors, both in ponies and players, when our outdoor season reopens in the spring.

1st Cavalry Division Polo Tournament

THE 1st Cavalry Division Fall Polo Tournament conducted from October 10th to November 1st was divided into three classifications; namely: The Southwestern Open, an invitation tournament for all teams in the vicinity of Fort Bliss; a Senior Tournament for Regular Army teams only; and the Feder Cup Tournament for no handicap teams.

In the Southwestern Open, teams were entered from each Fort Bliss regiment; Special Troops, 1st Cavalry Division; New Mexico Military Institute; 111th Cavalry, New Mexico National Guard (Silver City, New Mexico); El Valle (El Paso civilians); and the 5th Cavalry, Fort Clark. Early in the tournament it became evident that the hard riding cadets from the New Mexico Military Institute and the 5th Cavalry would eventually meet for the championship. Both won their preliminary games handily and met in the finals to play the best polo of the series on October 18th. The Cadets were awarded two goals by handicap and were never headed, but the final score of 7 to 4 demonstrated their ability to win on the flat. They carried their well earned trophies and the championship title back to Roswell.

In the consolation game, played the same afternoon, the 7th Cavalry met the 8th Cavalry. After a close battle to half-time, when the Garry Owens were trailing by a 3 to 1 score, the 7th team came back with a rush in the last three chukkers to win 11 to 5.

The following day the Military Tournament got under way and culminated in a final game between the 7th Cavalry and the 5th Cavalry on October 26th. In this game the hard-hitting officers from Fort Clark took an early lead to overcome their two-goal handicap and won as they pleased in the second half to register a final score of 13 to 5. The consolation prize went to the 8th Cavalry by a 7 to 4 win over the 82d Field Artillery.

In the Feder Cup Tournament, the 111th Cavalry, New Mexico National Guard, came into its own by defeating the 8th Cavalry no-goal team in the finals by the close score of 8 to 7. The El Valle Club of El Paso won 11 to 3 from the 5th Cavalry in the consolation event on November 1st.

The tournament was one of the most successful ever played at Fort Bliss. Competition was keen in all divisions, and all games were hotly but cleanly contested. The large and enthusiastic crowds, which witnessed all events gave evidence of the growing interest in polo among the people of this vicinity.

Games were played on the regular Fort Bliss Field, the new Bosserman field and the El Valle Club field in the Lower Rio Grande Valley.

SUMMARIES

Southwestern Open Polo Tournament

Entries:

New Mexico Military Institute, Roswell, New Mexico.
111th Cavalry, N.M.N.G., Silver City, New Mexico.
El Valle, El Paso, Texas.
5th Cavalry, Fort Clark, Texas.
Special Troops, Fort Bliss, Texas.
7th Cavalry, Fort Bliss, Texas.
8th Cavalry, Fort Bliss, Texas.
82d Field Artillery, Fort Bliss, Texas.

Games and Results:

Oct. 10	82d F.A.	8	Oct. 14	El Valle	7
	vs.			vs.	
	111th Cav.	3		8th Cav., B.	4
Oct. 10	Special Troops	9	Oct. 15	5th Cav.	8
	vs.			vs.	
	8th Cav,. B.	4		82d F.A.	4
Oct. 11	N.M.M.I.	11	Oct. 15	N.M.M.I.	12
	vs.			vs.	
	8th Cav.	2		Special Troops	3
Oct. 11	5th Cav.	10	Oct. 16	8th Cav.	7
	vs.			vs.	
	7th Cav.	7		El Valle	6
Oct. 12	Special Troops	7	Oct. 18	N.M.M.I.	7
	vs.			vs.	
	El Valle	5		5th Cav.	4
Oct. 13	7th Cav.	11	Oct. 18	7th Cav.	11
	vs.			vs.	
	111th Cav.	5		8th Cav.	5

Winners:

Southwestern Championship: N.M.M.I.
1. Mr. H. M. Means.
2. Mr. J. E. Shirley.
3. Mr. R. B. Thompson.
4. Mr. J. C. Rogers.

Consolation: 7th CAVALRY
1. Lt. C. D. Womack.
2. Capt. W. W. Yale.
3. Capt. R. L. Howze, Jr.
4. Lt. H. M. Estes.

SENIOR REGULAR ARMY TOURNAMENT

Entries:

5th Cavalry, Fort Clark, Texas.
Special Troops, Fort Bliss, Texas.
7th Cavalry, Fort Bliss, Texas.
8th Cavalry, Fort Bliss, Texas.
82d Field Artillery, Fort Bliss, Texas.

Games and Results:

Oct. 19	Special Troops	5	Oct. 26	5th Cav.	13
	vs.			vs.	
	82d F.A.	4		7th Cav.	5
Oct. 20	7th Cav.	12	Oct. 26	8th Cav.	7
	vs.			vs.	
	8th Cav.	7		82d F.A.	4
Oct. 21	5th Cav.	11			
	vs.				
	Special Troops	2			

Winners:

Championship: 5th CAVALRY
1. Capt. R. E. Ireland.
2. Capt. C. L. Ruffner.
3. Maj. C. Burgess.
4. Lt. W. Walsh.

Consolation: 8th CAVALRY
1. Lt. J. H. Polk.
2. Lt. Bruce Palmer.
3. Capt. C. H. Valentine.
4. Maj. H. E. Eastwood.

FEDER CUP TOURNAMENT

Entries:

111th Cavalry, NMNG., Silver City, New Mexico.
El Valle, El Paso, Texas.
5th Cavalry, B, Fort Clark, Texas.
Special Troops Freebooters, Fort Bliss, Texas.
7th Cavalry, B, Fort Bliss, Texas.
8th Cavalry, B, Fort Bliss, Texas.
82d Field Artillery, Fort Bliss, Texas.

Games and Results:

Oct. 27	111th Cav.	7	Oct. 30	5th Cav.	8
	vs.			vs.	
	Freebooters	5		7th Cav.	4
Oct. 28	8th Cav.	13	Oct. 31	El Valle	8
	vs.			vs.	
	7th Cav.	3		Freebooters	5
Oct. 28	82d F.A.	3	Nov. 1	111th Cav.	8
	vs.			vs.	
	5th Cav.	2		8th Cav.	7
Oct. 29	111th Cav.	8	Nov. 1	El Valle	11
	vs.			vs.	
	El Valle	4		5th Cav.	3
Oct. 30	8th Cav.	14			
	vs.				
	82d F.A.	1			

Winners:

Championship: 111th CAVALRY N.M.N.G.
1. Prior Thwaits.
2. Capt. John Turner.
3. Truett Evans.
4. Raymond Thwaits.

Consolation: EL VALLE
1. Mr. E. Wisbrun.
2. Dr. A. W. Multhauf.
3. Mr. Reggie Sanders.
4. Dr. Frank Goodwin.

IN BUDAPEST *they have an awfully good pack of hounds and the huntsman is an old Englishman who has been with them for thirty-nine years, and was formerly huntsman for the Emperor. The old fellow is seventy now, but hale and hearty, and rides with the best of them.*—MAJOR WM. B. BRADFORD, *Cavalry*.

CAVALRY IN THE FOREIGN MILITARY PRESS

Reviewed by Sergeant F. W. Merten, D.E.M.L.

CHILE

SUGGESTIONS ON CAVALRY ORGANIZATION. By Major Alfonso Garrido, Cavalry. *(Revista de Caballeria,* June-July, 1936.)

The author deals briefly with the evolution of the cavalry through the ages to the present day.

He next describes the effects of motorization and mechanization. Countries like Chile, which are not industrialized and have no natural fuel resources nor extensive road nets at their disposal, should not waste time on motorization and mechanization, the author states.

The missions of cavalry Major Garrido enumerates as follows:

(*a*) Cover of the mobilization and concentration of the friendly forces.
(*b*) Reconnaissance of, and interference with, the mobilization, concentration and strategic disposition of the enemy forces.
(*c*) Missions involving demolition and requisitioning of supplies in hostile territory.
(*d*) Occupation of important zones, with the view to subsequent operations.
(*e*) Strategic ground reconnaissance while operations are in progress.
(*f*) Screening missions.
(*g*) Coöperation in the decisive battle, in the capacity of a mobile reserve at the disposal of the Commander-in-Chief, by harassing the enemy and exploiting gains.
(*h*) Parallel pursuit, with the view to routing the retiring enemy.
(*i*) During reverses, cover of the friendly forces, by protecting their disposition and withdrawal.

With regard to the geographic characteristics of Chile, the author suggests that the country be divided into two separate military zones, that of the Northern Desert and that of the Center and South. He proposes the creation of the 1st Cavalry Brigade as a component of the Army Corps of the North (1st Inf. Div.; 1st Andes Det.; Arica Frontier Det.; 1st Cav. Brig.).

He further proposes the organization of a 4th Cavalry Brigade, in addition to the present 2d and 3d Cavalry Brigades stationed in the Center and South.

The effective strength of the cavalry regiment should include 500 rifles, 36 automatic rifles, 8 machine guns and 4 cavalry guns (cannons). The brigade of two regiments should possess, in addition, 12 75-mm field guns.

The author draws the following conclusions:

(*a*) The cavalry should remain horsed and retain its regimental pack trains, in order to preserve its tactical mobility.
(*b*) A motorized service of supply should be organized by regiments; these regimental trains should be concentrated under one command, however, whenever the regiments operate jointly as a division.
(*c*) Animal-drawn field trains may be disbanded, inasmuch as the regimental combat trains carry every kind of supplies and may be replenished more rapidly by the motorized trains.
(*d*) A 1st Cavalry Brigade should be organized and equipped for desert service.
(*e*) The regiments stationed in the Center and South should be organized as a division, with the view to obtaining a superior cavalry command and conducting division exercises.
(*f*) A 4th Cavalry Brigade should be organized in Valdivia, by reorganizing the Dragoon and Lancer Regiments.
(*g*) The regiment should possess a minimum effective strength of: 1 communication section, 2 lancer squadrons (2 platoons each), 1 machine-gun squadron (2 platoons).
(*h*) The regiments should be armed with cavalry cannons or Stokes mortars, hand grenades, and gas masks for man and animal.
(*i*) Brigade and division exercises should be conducted regularly.

FRANCE

REFLECTIONS ON THE EMPLOYMENT OF MECHANIZED CAVALRY. By Captain du Jonchay. *(Revue de Cavalerie,* July-August, 1936.)

The author finds that, while the possibilities of a breakthrough by tanks have often been discussed, the opportunities for exploitation which armored cars may give to cavalry have failed to receive their due attention. Yet, he states, the breakthrough merely leads up to open warfare, but is no end in itself.

It is the intention of the author to show that the trend of modern armament points toward a return to the war of maneuver. Contrary to the general view that the stabilization of the front in 1914 was due to the lack of ammunition and the exhaustion of the troops, he attributes that fact primarily to the fire power of the automatic arms, which was so great as to surprise both Allies and Germans.

The endeavors to develop an arm which, independent of artillery support, would penetrate the seemingly impregnable zone of machine gun fire, eventually led to the creation of the tank. The effectiveness of the tank in the breakthrough now is recognized everywhere. Operating in the ranks of the infantry, the tank completely solves the difficult problem of neutralizing the machine gun. Moreover, by exploiting the artillery concentration which prepares the tank attack, the tank enhances the effect of the artillery fire at a reduction in ammunition expenditure and thus relieves the artillery in part of the difficult resupply.

From these observations, the author concludes that the introduction of the armored motor may lead to a return to the war of movement. Once the infantry and the tanks, supported by an artillery preparation, have pene-

trated the enemy lines, it devolves upon the mechanized cavalry, which possesses a much higher degree of mobility than the heavy and slow tank, to exploit this gain before the enemy can bring up reserves to close the gap in his front.

The strength of the modern cavalry arm the author ascribes to the fact that cavalry, by mechanization, has regained its power to engage hostile infantry. Detached to the enemy's rear, to destroy him by asphyxiation and intercept his communications, armored cars can brush aside hastily gathered infantry and, once in possession of the disputed ground, have nothing to fear from infantry not supported by tanks. Combined with speed, the armor is striking back at the fire arm.

On the hand of various examples of actions in which cavalry opposes cavalry, the author would show that, in a collision between forces of mechanized cavalry, the defeated party would lose all of its armored vehicles and thus be at the mercy of the victorious cavalry. His rear areas disorganized and his communications cut, the loser could be forced to his knees before being able to reorganize his cavalry.

The author recommends, therefore, that the mechanized cavalry be greatly increased; that is, its strength should exceed that of the opponent, and it should be armed primarily for combat against armored cars and tanks.

Objections that the development of this arm is hampered by a lack of motor fuel and financial resources, further that the enemy may block the action of armored cars by demolition work, are discredited by the author. He points to the production of synthetic gasoline by a hydrogenation of coal and to the fact that Germany, despite her financial straits, is spending enormous sums on mechanization. Demolitions, the author states, are no dependable protection against armored cars; for the attacked, in the majority of cases, will be caught unprepared. Besides, demolitions are a double-edged weapon; when the armored forces have reached the enemy's zone of action, demolitions may work against the defender as much as against the attacker.

In conclusion, the author emphasizes that cavalry, in order to exercise its power to act against infantry, must first eliminate the hostile cavalry.

GERMANY

THE BRITISH CAVALRY IN 1918. Book review by C. E. Count Pueckler-Burghass. (*Militär-Wochenblatt*, September 18, 1936.)

In 1935, Captain H. Zimmermann, Cavalry, German Army, published a book entitled *Die englische Kavallerie in Frankreich in Maerz und April 1918* ("The British Cavalry in France, March and April 1918"). This work was based primarily on the publications of the *British Cavalry Journal*, October, 1923, and January, 1924 (Major General Pittman), and 1932-1933 (Lieutenant Colonel Preston), and The CAVALRY JOURNAL, November-December, 1933 (Lieutenant Colonel Thwaites).

The book deals with the employment of cavalry in major operations. Whereas the British used their cavalry to good advantage in the advanced stages of the War, the German High Command made the mistake of not exploiting its cavalry regiments in the decisive operations in France.

Count Pueckler, the reviewer, draws the following conclusions from the accounts of the British cavalry:

(1) During the operations of March 21 to April 5, 1918, the British Cavalry Corps successfully executed its mission of closing gaps and overcoming crises at the focal points of the operations.

(2) It was a mistake to dismount cavalry contingents, remove them far from their horses (an average distance of 15 miles), and employ them like infantry. The strength (150 men a regiment) was inadequate. The lack of pack animals for machine guns and machine-gun ammunition was greatly felt.

(3) It became necessary to create mobile reserves. This was accomplished by reducing the number of horse-holders to one man for ten horses.

(4) Having been exposed to less action than the infantry, the cavalry possessed a superior grade of officers and non-commissioned officers, and greater fighting strength.

(5) Mounted attacks were successful only against inferior infantry which, unskilled in the use of the rifle, became panic-stricken at the sight of the mounted enemy (attacks of Villeselve, March 24th, and Moreuil, March 30th.)

(6) The bringing up of the horses was successful only when not observed by the enemy. On all other occasions the lead horses fell victim to the hostile fire (for instance, the 19th Hussars were identified by aviators in the quarry of Falvy, March 23d.)

(7) The cavalry was greatly dependent upon bridges (March 23d, the 8th Hussars had to leave their mounts on the east bank of the Somme).

(8) Close reconnaissance brought excellent results.

(9) By expertly avoiding fire zones, the cavalry crossed open country and reached positions which would have been inaccessible to motorized elements.

(10) Large cavalry commands (corps and divisions) did not operate as such. The generals remained far away from the zone of action, had no contact with the troops and were without influence on the action.

The reviewer does not believe that the British cavalry would have been as successful in an offensive operation as it was in this defensive, where it executed to the full extent its mission of functioning as a highly mobile reserve.

THE BELGIAN CAVALRY MANEUVERS, JULY 6-8, 1936. By 76. (*Militär-Wochenblatt*, October 4, 1936.)

The interesting feature of the 1936 maneuvers of the Belgian Cavalry Corps was that they included for the first time the mechanized units introduced in 1936. The object of the maneuvers was to test the joint action and command of arms of different mobility, such as horsed units and troops mounted on bicycles, motorcycles, armored cars and half-truck vehicles.

Held in conclusion of the annual training period at Camp Beverloo, the exercises were set for three days. The

situation was assumed as follows: Belgium was threatened by an invasion from the north. Owing to political tension between Belgium and Germany, the Belgian forces were concentrated at the eastern frontier, left flank (14th Inf. Div.) at Maeseyck, on the Meuse. The Cavalry Corps was placed behind this flank, in the region of Hasselt, facing north. Its right resting on the 14th Infantry Division, its left on the V Corps, the Cavalry Corps had

The 1936 Belgian Cavalry Maneuvers.

the mission to repulse the simulated attack of the hostile northern state. Between this state and Belgium, a neutral state was assumed extending north to the Waal and east to the Rhine. The forces of the northern state were concentrating on its southern border, prepared with mechanized elements to invade Belgium through neutral territory.

On July 6th, the Cavalry Corps was moved from Camp Beverloo to Hasselt, where it went into bivouac in the region south of the Demer river, 1st Cavalry Division between Munsterbilsen and Tongres (Hq. at Tongres), 2d Cavalry Division between Hasselt and St. Trond (Corps and 2d Div. Hq. at St. Trond).

The Corps was to occupy a position which would permit it, four hours after receipt of orders, either to defend the sector Munsterbilsen—Hasselt—Quadmechelen, or to march north in defense of the anticipated attack. March orders arrived at 9:00 P.M., with the request that the Cavalry Corps occupy and defend the line of the Canal from Maeseyck to Lommel. Of the adjoining forces, the 14th Infantry Division received orders to refuse its left flank some distance, while the V Corps was to advance its left to the north. The Cavalry Corps had instructions not to wait for the advance of the V Corps, but to maintain liaison with it.

The situation permitted the enemy either to approach from the north or to send strong forces via Turnhout, or both, thus threatening the exposed left flank of the Cavalry Corps (direct contact with the V Corps did not exist).

The Commander of the Cavalry Corps ordered the mechanized squadrons of the 1st and 2d Lancers and 1st Mounted Chasseurs, reinforced by elements of the 1st and 2d Cyclist Regiments, to push forward via the three main routes Munsterbilsen—Bree, Hasselt—Hechtel—Eindhoven and Hasselt—Beeringen—Lommel, designating the Hasselt—Eindhoven road as boundary between divisions. The three mechanized advance guards reached the Canal at 5:00 A.M. (36 miles in three hours), established three defense sectors and concentrated their fire power on the canal crossings, supported by groups of motorized artillery. The mass of the Cavalry Corps was held in reserve to defend a position south of the line Opglabeek—Beverloo—Gheel.

At noon, July 7th, the simulated enemy opened his attack with mechanized forces, one hostile column advancing from Kinroy on Tongerloo, another from Hamont on Lille-St. Hubert and the strongest from Moll on Baelen.

To repulse the latter column, the Cavalry Corps Commander employed a regiment of portée cavalry. He had at his disposal, for such missions, a portée brigade equipped with 70 trucks. The double envelopment by the enemy was judged successful; and so the three advance guards at the canal were withdrawn to the main line of defense.

It was planned in the further course of the maneuvers to withdraw the Cavalry Corps to its line of departure at Hasselt, occupy the line of the Albert-Canal between Munsterbilsen and Hasselt during the night of July 7th-8th, and block the advance of the enemy on July 8th. In this position, the right flank of the Cavalry Corps was to rest on the 14th Infantry Division, the left flank on the 20th Infantry Division which was to move up in the evening of the 7th (simulated). The execution of these movements was prevented, however, by heavy rains, which caused the command to halt the maneuvers prematurely in the afternoon of the 7th.

Nevertheless, the maneuvers were considered a success as the command was not so much interested in assigning and solving tactical problems as in testing the action and command of large units from the technical angle.

As to the result of the exercises, the observer of the *Indépendance Belge* has this to say: "In order to obtain an equal effect of all units, the mechanization of the cavalry must be considerably increased; that is, portée cavalry must be replaced by mechanized cavalry. Furthermore, a permanent frontier guard must consist of specially trained contingents and must be garrisoned in the immediate vicinity of the frontier."

At present, the Cavalry Corps is distributed over the country; consequently, its concentration against a sudden attack through Holland would require considerable time. Partly mechanized in 1935, the cavalry has gained in mobility. In addition to horse and bicycle units, the cavalry now includes motorcycle squadrons, antitank and mechanized reconnaissance units.

The 1936 maneuvers for the first time included the

operations of a brigade of portée cavalry. Owing to the short duration of the exercises, the great mobility of the various units could not be fully developed. The motors served merely to carry the advance guards of the corps to the canal.

CHANGES IN THE GERMAN EQUESTRIAN TEAM. *(Deutsche Sankt Georg Sportzeitung,* No. 20, October, 1936.)

In preparation for the Olympic Games, a large number of Germany's best horsemen for a long time were concentrated at the Cavalry School in Hanover. The Games being concluded, a considerable change in the personnel of the Cavalry School has been ordered.

Of the riders best known to Americans, Colonel Baron von Waldenfels, in charge of the jumping stable, has been temporarily assigned to an infantry regiment and will be replaced by Captain Momm. While Captains Ernst Hasse and Brandt and First Lieutenant Schlickum are transferred, the jumping stable will retain such outstanding riders as Captains von Barnekow, Kurt Haase, Pollay, Sahla, and First Lieutenant Brinckmann.

Major von Metzsch, whose activities as the head of the "military" stable culminated in the Olympic victories of *Nurmi, Fasan,* and *Kurfuerst,* will be succeeded by Captain von Busse. Captains Stubbendorff, von Ploetz, Lippert, and First Lieutenant Baron von Wangenheim have left the "military" stable and returned to the line.

New Mexico Military Institute R.O.T.C. Cavalry Unit

THE school year of 1936-1937 finds the New Mexico Military Institute with a capacity enrollment of 562 students, representing thirty-three states, the Canal Zone, Hawaii, Philippine Islands, Brazil, Canada, Mexico, and Venezuela. For the first time since 1930 it has been necessary to reject applicants because of lack of room, the barracks being full. The Army and Navy are well represented.

Samuel Goodwin, son of Captain Samuel R. Goodwin, Cavalry, Fort Bliss, Texas, was given the honor graduate appointment to West Point for 1935-1936 and is now a cadet there. Cadet Lawrence Lahm son of Colonel Frank P. Lahm, Air Corps, Headquarters Second Corps Area, Governors Island, N. Y., has received a presidential appointment and will enter West Point in July, 1937.

The polo season began in October, and the team promises to be one of the outstanding teams of the Southwest under the able coaching of Captain Anderson H. Norton, Cavalry, Retired. The first game of the season was played on the home grounds against La Mesa, Texas, the "Broncos" winning with the final score of N. M.M.I. 12, La Mesa 3. The Institute entered the annual Southwestern Polo Tournament at Fort Bliss, Texas, this fall. The members of the team were: Cadets Means, H. M., No. 1; Shirley, J. E., No. 2; Thompson, R. B., No. 3; Rogers, R. C., No. 4; and Bannister, J. C., substitute. A series of games was scheduled with various teams of the southwest. The Institute played the 8th Cavalry, winning by a score of 11 to 3. The second game of the tournament was against the Special Troops, 1st Cavalry Division, the Institute winning again by a score of 12 to 3. The finals of the tournament found the Institute matched with the veteran 5th Cavalry team, with the Institute again winning by a score of 7 to 4, and becoming virtual champions of the southwest, bringing home the much coveted Championship Trophy of the Southwestern Polo Tournament. Games scheduled for this fall on the home grounds are Oklahoma Military Academy on November 13th and 15th and Oklahoma University on November 26th and 28th. Other games scheduled are with the University of Arizona on the week-end of December 12th to be played at Tucson, Arizona.

The first horse show of the season is scheduled on the program for Homecoming, November 26th. The interest now showing for this event promises it to be one of the best horse shows of the season. There will be three classes showing over a special course, with ribbons for the winners in each class. The program also includes an exhibition ride by members of the Second Year Basic Military Course. A polo game follows the horse show.

The pistol team is undergoing practice now with a membership of twenty-five, and more are expected to join later on. This is the second season for the pistol team and it promises to be one of the best in this area.

The rifle team began practice recently with a membership of 150, and shortly will begin firing matches with other schools, also in preparation for the annual Eighth Corps Area Matches and National R.O.T.C. Rifle Competition for the William Randolph Hearst trophy. With the completion of a new modern outdoor rifle range, with ranges up to and including 1,000 yards, the Institute will have the best facilities for rifle marksmanship and competition in the Southwest.

BOOK REVIEWS

THE HORSE, ITS ACTION AND ANATOMY. By an artist, Lowes D. Luard. Derrydale Press, New York. 80 Illustrations. 122 pages. $10.00.

Reviewed by Captain Halley G. Maddox, 9th Cavalry.

This volume is one to be studied rather than skimmed and, as indicated in the preface, is intended to be of assistance to the artist, whether sculptor or painter, in the accurate portrayal of any particular phase of the horse's movement.

The author, a celebrated animal painter, has undoubtedly devoted a great deal of time and thought to studying the action and anatomy of the horse, and has certainly taken meticulous care in the preparation of the eighty illustrations, which are plates based on his own drawings.

The artist who wishes to portray action of the horse, either in sculpture, painting, or pen and ink sketch, can benefit from a study of the chapters of this volume under the headings of the Frame, Action and Mechanics, Skeleton, Muscles, Proportions, Movement, and avoid placing the poor horse in some of those awkward, grotesque positions sometimes seen in sketches of race horses and polo ponies in action.

The author's interest and enthusiasm in his subject are very real throughout the book, as is also his desire to aid his fellow artists in presenting the horse in action as a "thing of beauty" and not merely a likeness of some drab, uninteresting quadruped.

So, to all artists, this volume is highly recommended for the keener insight it will give them into the mechanical action of the bones and muscles in the horse's body and their functional relaxation to movement. To all horsemen the book will be a useful addition to the library for reference and study, and of valuable assistance should the need arise to prepare and give a course of instruction in the subject. The many well-arranged plates, particularly those showing the various muscles in different colors, are of inestimable value.

PRE-WAR YEARS, 1913-1917. By Frederick L. Paxson. Houghton Mifflin Company, Boston, 1936. Illustrations. 420 pages. Price $3.75.

Reviewed by Captain John R. Embich, Chemical Warfare Service.

Mr. Frederick L. Paxson, the winner of the Pulitzer prize in his former book, "History of the American Frontier," has presented a true and detailed picture of America in "Pre-War Years, 1913-1917."

His first chapters are devoted to the new political outlook which occurred with the election of Woodrow Wilson as President of the United States. At this time it was stated that we had "a tariff which cut us off from our proper part in the commerce of the world"; a banking and currency system "adapted to the concentration of cash and restriction of credit"; "an industrial system which restricted the liberties and opportunities of labor." All this was to have been changed before many years—or so it was said.

Certainly no thought of war was contemplated. Then came the invasion of Belgium. America and Americans were shocked to find the world not to have been what they believed it to be; a tranquil world of business enterprise.

Four schools of thought appeared on the war. The author in his chapter on sentiment and war has brought these points of view clearly to light.

First was the prevailing American view that there should be no war at all. This, of course, is the predominating sentiment of a nation given to industrial pursuits and unprepared to fight.

Second: pro-German thought courted the widespread belief that Germany was right in the use of her armies. As time went on, fear of the German armies and the consequences of a German victory began to take hold of the American public mind.

Third: pro-English thought anticipated adherence to England's cause, but were subtle in stating it.

Fourth: another influential angle of American thought was that the war was brought about by munition makers intent on swelling their incomes, and while not a pro-German sentiment, it held that wealth and the Allies were in alliance.

Into this tangle of opinions was suddenly projected the stories of German atrocities, which, more than the invasion of Belgium itself, shocked the American public. There was then a demonstration of the fact that in democracy a "believed untruth is quite as effective as historical fact, and cause of action, as is the truth itself; while the truth that is unknown is as though it were not."

The Report of the English Committee on the Alleged German Atrocities was released in May, 1915, and discussed the "calculated terrorism" of the Germans. This committee was headed by Lord Bryce, who was believed, after the fashion of a democracy believing what it wants to believe.

Events crowded the pages of the newspapers and there was a propaganda war of contradictions which made it difficult to understand what was the true state of affairs. Two facts could not be denied. The Germans had invaded Belgium, and the treaty of 1839 was a "scrap of paper." The town of Louvain in Belgium with its great library had been destroyed. This was incontrovertible.

In Belgium the population was starving as the result

of the invasion. This was also beyond argument; so the people were fed with American and Belgian money. This, more than any other fact, gradually drew American public opinion into the camp of the Allies.

As the war progressed and threatened to engulf the wealth and man power of the world, a new war of words arose over the question of military preparedness and the national life. There was a Navy League dating from 1903, and an Army League dating from 1913. Nicholas Murray Butler of Columbia University "tried to brush away the new organization with the charge that 'militarism has its origin in a state of mind.'" This was not disputed, but since no one was aiming at militarism, much of the argument was beside the point. The fact was that foreign nations had built up their navies after publication of Captain Mahan's "The Influence of Sea Power upon History" (1890). America had not done this.

The charge and countercharge of "militarist" and "pacifist" were drowned for a time by the rising tide of American war prosperity. Wealth and ostentation were seen on every side. Ethical questions as to war guilt or war preparation on America's part became somewhat blurred. One thing was certain: war was profitable, and profit was the objective.

At 3:06 A.M., Friday, May 7, 1915, a message came from the American Ambassador in London. The sentence was: "The Lusitania was torpedoed off the Irish coast and sunk in half an hour. No news yet of passengers." This act, by a German submarine commander, Walter Schweiger, was the spark that smouldered in the dangerous magazine of American public opinion. It brought from Theodore Roosevelt the words that could not be erased from the public mind. He called it an "act of piracy," and an "act of piracy" it remained in the minds of a great portion of the American public.

From President Wilson came the historic words, "The Imperial German Government will not expect the Government of the United States to omit any word or any act necessary to the performance of its sacred duty of maintaining the rights of the United States and its citizens and of safeguarding their free exercise and enjoyment."

Long and tedious negotiations followed, but the case of the Lusitania was not settled in the minds of many until 1918.

The author states of President Wilson in one of his final chapters that "He was hard at work on an approach to peace, to be driven through before exhaustion should stop the war or conquest should end it and thereby threaten all the world." The American public did not know, when Congress met in December, 1916, of the latest attempt for peace which Colonel House made during his visit to Europe in early 1916. House had made an effort in 1915 with his overtures for the freedom of the seas. In this he failed. His attempt for peace in 1916 was likewise a failure.

After these secret attempts for peace, the President delivered his "peace without victory" note December 20th, which came as a surprise; American pro-Allies broke into violent criticism of his meddling. "The meddling sounded more ominous when Secretary Lansing at his press conference December 21st told the correspondents how near the United States was to the verge of war."

"Peace without victory was a doctrine of the higher levels of the soul," states the author, "But it was apparent that the belligerents desired victory without peace." Through December and January talk of peace continued while certain preparedness laws got under way, one of the most important of which was the three-year building program for the Navy.

Suddenly, on February 1st, 1917, the Imperial German Government withdrew its pledge and pledges made after the sinking of the Lusitania by placing the waters about the British Isles in a danger zone. The statement was: "All ships met within that zone will be sunk." It was confident that "this measure will result in a speedy termination of the war and in the restoration of peace which the Government of the United States has so much at heart." The result was war and not peace. America's freedom had been taken away.

The most important picture presented by the author is that of the patient, constant efforts of Woodrow Wilson, President of the United States, to maintain America's neutrality and to bring about peace. Scarcely a record of such an effort to maintain neutrality and achieve peace exists in history. Patient statesmanship was brought to bear, but it was a peace policy in a world devoted to war policy, and as such was doomed to failure.

Through the din of present war preparations throughout the world we seem to hear a distant echo of his voice saying "no autocratic government can be trusted. 'The world must be made safe for democracy.'"

EQUESTIONNAIRE. By Harry Disston. Harper and Brothers, New York. Illustrated. 189 pages. Price $2.00.

Reviewed by Captain Charles G. Meehan, Cavalry.

This book is in the form of a questionnaire containing some six hundred questions and answers covering nine separate aspects of horsemanship.

The author, Harry Disston, is a resident of Greenwich, Connecticut. Since 1925 he has played polo, hunted and been connected with racing on Long Island and in Connecticut. He was a delegate to the United States Polo Association and the Indoor Polo Association for many years. His military connections are those of a member of the 7th Regiment, New York National Guard and a Captain in the United States Cavalry-Reserve.

The personal knowledge of the author has been supplemented by information obtained from the following sources indicated in the preface:

a. The facts determined from reliable available records.

b. The published rules or regulations of recognized

governing bodies, using those of the national organization when both national and local associations govern a field.

c. The opinions of recognized authorities in their respective fields.

d. The doctrines of the United States Cavalry School at Fort Riley, Kansas.

The author states his purpose thus: "This book I hope may prove interesting, entertaining and perhaps informative to those who in one way or another enjoy a horse. It may in some instances also provide the stimulus for an increase in knowledge and consequently the enjoyment of that splendid animal."

The divisions of the subject matter are:

a. The Horse.
b. General Anatomy and Stable Management.
c. Tack and Equitation.
d. Horse Shows.
e. Hunting.
f. Racing.
g. Polo.
h. Cowboys and the West.
i. The Cavalry.

Separate sections are devoted to questions, answers and a table for determining on a percentage basis the number of questions answered correctly.

Small representative groups, including novices and experts, were scored in the nine divisions of the book. The average scores made by these groups are of interest but as stated by the author "should not be considered as standard due to the very small sample and to the geographical proximity of those tested."

The average scores (per cent answered correctly) made in the division "Anatomy and Stable Management" were:

5 who do not ride or own horses	16%
5 who ride but do not own horses	29%
5 who ride and own horses	60%
3 United States Cavalry Officers	91%
3 Veterinary surgeons	99%
while those made under "Horse Shows" were:	
5 who do not ride but have attended at least 3 horse shows	28%
5 who ride but do not own horses	32%
5 who ride and own horses	73%
5 members of recognized Horse Show Committees	87%

Each of the other divisions carry similar average scores made by representative groups.

The questions cover a broad range so as to be interesting and informative to the novice as well as the expert. It is not a technical treatise and technical terms were avoided wherever possible. Likewise controversial subjects were omitted from the book.

The illustrations are in black and white by the well known artist Paul Brown.

The true value of the book is perhaps best expressed by the author's statement "May the reader have as much fun 'doing' the Equestionnaire as I had in preparing it."

Troops of 116th Cavalry Perform Duty in Clearwater National Forest

At about 2:00 A.M. August 3d, the Adjutant General of Idaho telephoned Captain S. Robert Lough, Lewiston, commanding Troop I, 116th Cavalry, and Captain Harry A. Brann, Moscow, commanding Troop K, 116th Cavalry, stating that martial law was being declared in Clearwater County, and that Troops I and K would mobilize at once prepared to move to Orofino.

By 3:30 A.M. the officers and forty enlisted men of Troop I and the officers and twenty-four enlisted men of Troop K had assembled at their respective armories prepared to move out with full field equipment. The actual movement orders were received from the Adjutant General at 4:30 A.M. The transportation for troops, baggage and equipment was furnished by the 148th Field Artillery and comprised thirteen trucks and three reconnaissance cars. This convoy left Moscow at 8:15 A.M., clearing Lewiston at 10:30 A.M., and arriving at Orofino at 12:00 noon.

Colonel Hummel, Commanding Officer of the 116th Engineers, took command of these two troops shortly after their arrival at Orofino, immediately discussing the situation with the officers. It was found necessary to take over Fromelt's Camp that afternoon. Two officers and twelve picked men of Troop K were dispatched for this purpose. All entrances to the camp were immediately blockaded and sentries posted in three reliefs but no trouble followed that evening. The next day all men of the camp were back in the woods logging under guard. This was continued for the duration of martial law.

Troop I bivouacked in the Orofino baseball park during the night of August 3d-4th. The next morning this troop established a permanent camp on the Orofino school grounds. That afternoon they were ordered to proceed to Pierce, Idaho, in the heart of the strike area, about forty-five miles from Orofino. The Troop cleared Orofino at 1:00 P.M., moved to Pierce where it set up a permanent camp, prepared meals on a field range, formed patrols, and posted guards.

The Idaho troopers were on duty in the strike area for twenty days. Due to the excellent manner in which the duty was performed, no serious difficulty was encountered, strikers and citizens showing a very high regard for the officers and men of the 116th Cavalry. In all, this special duty proved a splendid experience.

ORGANIZATION ACTIVITIES

1st Cavalry (Mechanized)—Fort Knox, Kentucky

Colonel Bruce Palmer, Commanding
Colonel Henry W. Baird

Lieutenant Colonels

Guy W. Chipman
Arthur B. Conard
Willis D. Crittenberger

Majors

Beverly H. Coiner
Gersum Cronander
Raymond C. Blatt
Leslie F. Lawrence
Carl J. Rohsenberger
James I. Gibbon
Burton C. Andrus
Rossiter H. Garity

Captains

Erle F. Cress
Daniel P. Buckland
Hayden A. Sears
Douglas Cameron
Francis L. Ready
Isaac D. White
Charles V. Bromley, Jr.
Richard T. Willson
Wendell Blanchard
Gustavus W. West
Grant A. Williams

First Lieutenants

J. Paul Breden
Clayton J. Mansfield
Donald M. Schorr
Philip H. Bethune

BY the middle of September all organizations were engaged in machine gun target practice on the new twenty track 1,000-inch range at Muldraugh and the test range on the Porter River Road. The last day of record practice was October 3d. The regiment fired 581 men, qualifying 52 Expert Gunners, 190 1st Class Gunners, and 305 2d Class Gunners. The high score for the regiment, 361, was turned in by Private Lawrence J. Tegethoff, Headquarters Troop.

Brigadier General Daniel Van Voorhis, who was formerly commanding officer of the 1st Cavalry at Fort Knox, returned recently to this station as Commanding General of the post and the 7th Cavalry Brigade. He reviewed the brigade on Roosevelt Bridge the day following his arrival and observed a tactical demonstration of the 1st Cavalry in attack, supported by the 68th Field Artillery.

A detachment consisting of a platoon of M-1 Combat Cars from Troop C and type vehicles from other organizations of the 1st Cavalry and the 68th Field Artillery, under command of Captain Hayden A. Sears, was dispatched to Frankfort, Kentucky, October 4th. After participating in the Sesquicentennial Celebration of that city, the detachment returned to Fort Knox on October 7th.

Early in October combat firing was started, using three combat ranges on the reservation. Training has been progressive, beginning with the car crew and working through platoon exercises to include attacks by troops. The final phase of combat training includes firing at moving targets representing hostile mechanization and firing from moving vehicles at targets representing personnel.

On October 10th Captain William T. Fletcher, formerly on duty with this regiment, and now on duty with the Pennsylvania National Guard, arrived at Fort Knox accompanied by Lieutenants Robert E. O'Brien, H. L. Davisson, J. C. Davis, and J. R. Dey, all of the Pennsylvania National Guard. These officers spent a week inspecting equipment and observing methods of training of the 1st Cavalry and participated in an overnight march of the 68th Field Artillery. 1st Lieutenants J. J. Vandeventer and W. R. Weber, 1st Cavalry-Reserve, were on active duty with the regiment during the same period. In November 1st Lieutenant James E. Davidson, 13th Cavalry-Reserve, was attached for a two weeks' tour of active duty.

Colonel Bruce Palmer addressed the Army War College on October 12th, outlining the aims of mechanized cavalry and illustrating methods of employment by examples of typical actions which took place during the Second Army Maneuvers at Fort Knox, Kentucky, and Allegan, Michigan.

Troop A was called upon to escort Major General William E. Cole, Fifth Corps Area Commander, on his arrival at Fort Knox, for a short visit on the afternoon of October 13th. The next afternoon Brigadier General Edward M. Shinkle, Assistant Chief of Ordnance, inspected the motor park and all ordnance equipment of the 1st Cavalry.

Many changes in officers and enlisted personnel have occurred in the past two months, due mainly to the arrival of the 13th Cavalry at Fort Knox and the organization of 7th Cavalry Brigade Headquarters. Lieutenant Colonel John D. Kelly, Majors Harold C. Fellows, and Bertrand Morrow, and Captains Kevin O'Shea, William A. Fuller, Granville V. Morse, Claude A. Thorp, George P. Berilla, and Jesse B. Wells were transferred to the 13th Cavalry to make up its complement of officers. At the same time over sixty enlisted men were transferred to the incoming regiment in order to provide a nucleus of specialists for the newly mechanized cavalry regiment.

Major Floyd M. Hyndman has been relieved from duty with the regiment and is now on duty with the R.O.T.C. unit at Shreveport, Louisiana. Major Edward A. Everitt, Jr., was ordered to duty with the Disciplinary Barracks at Fort Jay, New York, and Major James I. Gibbon has recently left Fort Knox for duty with the C.C.C. District at Charleston, West Virginia. Major Richard N. Atwell has been detailed with the Quartermaster Corps and has reported for duty at the Motor Transport School. Captain Frank G. Trew is now at Fort Monmouth where he is a student at the Signal School.

Major B. C. Andrus, Captains E. F. Cress, and R. T. Wilson and 1st Lieutenant P. H. Bethune left the regiment for a three months' course of instruction at the Motor Transport School at the Holabird Quartermaster Depot.

The 1st Cavalry has been a source of strength for the Fort Knox football team, coached by Captain Newton

W. Jones, 68th Field Artillery, and 1st Lieutenant J. Paul Breden, 1st Cavalry. This team, with so many men from the 1st Cavalry on the first string, has not been defeated this season, having already won from Fort Thomas, Scott Field, and Fort Harrison. The University of Louisville freshmen were tied 6-6 on October 24th.

2d Cavalry—Fort Riley, Kansas

Colonel Dorsey R. Rodney, Commanding

Lieutenant Colonels

William M. Grimes	Robert O. Annin

Majors

William E. Shipp	Donald A. Young
Edwin E. Schwien	Fenton S. Jacobs
Lawrence C. Frizzell	Vennard Wilson
James A. Kilian	Roy E. Craig
Frank H. Barnhart	Henry T. Allen
Ira A. Correll	Perry E. Taylor
Guy D. Thompson	Joseph I. Lambert
John W. Carroll	

Captains

Winfield C. Scott	William A. Bugher
Charles H. Noble	Gordon B. Rogers
Basil G Thayer	Harry W. Miller
Joseph M. Williams	Henry R. Westphalinger
John H. Riepe	Norman M. Winn

First Lieutenants

Walter E. Finnegan	David V. Adamson
Edward J. McNally	Sherburne Whipple, Jr.
Hugh W. Stevenson	Anthony F. Kleitz, Jr.
Whitside Miller	Norman K. Markle, Jr.
Bogardus S. Cairns	Jesse M. Hawkins
William G. Bartlett	David Wagstaff, Jr.
Jack W. Turner	

Second Lieutenants

David L. Hollingsworth	Lawrence E. Schlanser
Eugene Nall	Albert A. Matyas
Maynard D. Pedersen	Robert H. Strauss

Second Lieutenants, Cavalry-Reserve

Floyd B. Simmen	George C. Fullenkamp
Edward M. Callihan	Philip S. Pollock
Richard L. Warner	William H. Mapes, Jr.
George W. Thornbrough	John H. Haas
Ernest Van Pawel	John Z. Wheeler
Merle J. Finch	

EARLY in August a directive was received from the War Department providing for the transfer of the 13th Cavalry to Fort Knox, Kentucky, on or about September 5th, and for the absorption of the greater part of that regiment by the 2d Cavalry. The problem that confronted both regiments was for one of them to pack up and move out on the same day that the other regiment moved in. The 2d was increased overnight from a regiment of 750 to one of approximately 1,200 men, and the number of animals was increased from 800 to 1,400. There was a corresponding increase in the complement of scout cars and motor transportation as well as in armament.

The general plan that was worked out and put into effect was to transfer the personnel, animals, and equipment of Troop A of the 13th to Troop A of the 2d, that of Troop B of the 13th to Troop B of the 2d, etc. This scheme seemed to offer the least difficulties. Later, in order to permit individuals to transfer to troops of their choice, an adjustment and equalization was made in both personnel and animals. The plan worked admirably in all respects, and within a few days the 2d had added to its own the demonstration and service functions which the 13th had been furnishing the Cavalry School.

The enlarged regiment is now located in both the upper and lower post areas of Fort Riley, the Headquarters Troop and the 1st Squadron remaining in the upper post and the Machine Gun Troop and the 2d Squadron having moved to the lower post, the former home of the 13th. A reapportionment of stables was made along the same lines.

The modifications in organization and tactical employment of the 2d Cavalry should be of interest to the cavalry at large. This regiment, at its increased strength, is organized administratively as follows:

	Number of Enlisted Men
Headquarters Troop: Troop Headquarters, etc.	154
Machine Gun Troop:	283
Troop Headquarters	
3 caliber .30 machine gun platoons	
3 caliber .50 machine gun platoons	
4 Rifle Troops:	
A—Troop Hq., 1 troop of 4 rifle platoons, 2 L.M.G. platoons	195
B—Troop Hq., 1 troop of 5 rifle platoons, 1 L.M.G. platoon	195
E—Troop Hq., 1 troop of 4 rifle platoons, 2 L.M.G. platoons	195
F—Troop Hq., 1 troop of 5 rifle platoons, 1 L.M.G. platoon	195
(4 R/troops, 18 R/platoons, 6 L.M.G. platoons)	1,217

This organization permits the tactical or drill organization of the regiment on a 9-troop basis, as follows:

2 Squadrons of 3 rifle troops each; each rifle troop to consist of 3 rifle platoons and 1 light machine gun platoon.
1 Headquarters Troop.
1 Caliber .30 Machine Gun Troop, of 3 platoons.
1 Caliber .50 Machine Gun Troop, of 3 platoons.

3d Cavalry (Less 1st Squadron)—Fort Myer, Va.

Colonel Jonathan M. Wainwright, Commanding

Lieutenant Colonel

John Millikin

Majors

Charles C. Smith	Herbert V. Scanlan
Arthur P. Thayer	George H. Millholland
Renn Lawrence	Gyles Merrill
Frank C. DeLangton	Thomas J. Heavey
James T. Duke	

Captains

Leslie D. Carter	John H. Stadler, Jr.
John B. Reybold	Harry W. Johnson
Donald H. Galloway	

First Lieutenants

John L. Hines, Jr.	George R. Grunert
Thomas J. H. Trapnell	Frank S. Henry
John R. Pugh	Marshall W. Frame

Second Lieutenant

Richard M. Bauer

Second Lieutenants, Cavalry-Reserve

Robert N. Ackerly	Robert W. Carrier
Edwin T. Arnold	Robert P. Wilson

THE 3d Cavalry (less 1st Squadron) with Machine Gun Troop, 10th Cavalry attached, concluded a six-day practice march at Fort Myer on September 19th, the original plans of terminating the march at Fort George G. Meade, Md., having been changed in order to permit the regiment to participate in the G.A.R. parade in Washington on September 23d. The route of the practice march led through northern Virginia and Maryland and covered approximately 151 miles. Prac-

tically all marches were made over macadam or concrete roads which, while being severe on horseshoes, nevertheless speeded up the marching rate. As a result of generally excellent weather and carefully conducted marches, men and animals returned to Fort Myer in excellent condition.

Following the G.A.R. parade in Washington, the regiment with Machine Gun Troop, 10th Cavalry, still attached, left on September 24th for Fort Meade, Maryland, to take part in the Third Corps Area maneuvers, at which time and place all Regular Army troops of the Corps Area were concentrated. The 31-mile march to Meade was completed without incident, and at its termination, all were comfortably and conveniently housed in a semi-permanent camp.

The maneuvers proper consisted of three exercises, the first problem involving a daylight march and attack, the second a night defense and the third a night problem culminating in a daylight attack. The 3d Cavalry performed very creditably a series of reconnaissance, screening and outpost missions and engaged in actual combat and pursuit. The scout cars did excellent work and enabled distant information to be obtained without delay.

The maneuvers were completed on October 2d, and on October 3d the regiment made the return march to Fort Myer, averaging six miles an hour for the thirty-one miles, exclusive of watering time spent en route. Colonel Wainwright was much pleased with the march and pointed out that the time was excellent, notwithstanding the fact that over ten miles of the march was made through the heavy Saturday morning traffic of Washington and suburbs.

A series of formal dismounted guard mountings and evening parades was instituted by Colonel Wainwright for the months of October and November. In general there are two guard mountings and two parades each week. All ceremonies are held in front of the bachelor officers' quarters at 4:45 P.M., which has enabled large and interested civilian audiences to attend.

Majors Renn Lawrence and Gyles Merrill have reported from duty with the C.C.C. Major Lawrence has been assigned to duty with the regimental staff and Major Merrill has assumed the duties of Police and Prison Officer and Provost Marshal, relieving Major Herbert V. Scanlan who has been detailed with the C.C.C. as an Area Commander with headquarters at Gettysburg, Pennsylvania.

1st Squadron, 3d Cavalry—Fort Ethan Allen, Vermont

Lieutenant Colonel Thomas H. Rees, Jr., Commanding

Majors

Samuel V. Constant — Frederick H. L. Ryder
Herbert E. Watkins — Lawrence G. Forsythe

Captains

Cornelius C. Jadwin — Joseph M. Glasgow
Roland A. Browne — Raymond M. Barton
Theodore C. Wenzlaff

First Lieutenants

James L. Dalton, II — Edwin M. Cahill

Second Lieutenants

Robert W. Fuller, III — Edward W. Sawyer
Robert E. McCabe

Second Lieutenants, Cavalry-Reserve

William C. Brown — Francis A. Lord
Harold A. Midgely — John L. Wood
Thomas H. Dowd — Randolph C. Barrows

THE annual fall practice march concluded, we have settled down in plans for winter training. And this is well, perhaps, for at the last field inspection held on the drill grounds October 26, 1936, the troopers pitched their shelter tents in nearly three inches of clear cold snow.

The fall training season was completed with antiaircraft target practice, air-ground liaison, gas drills, and riot duty drill. The enthusiastic coöperation of details from the 97th Observation Squadron, Mitchell Field, Long Island, made the two-target missions highly interesting and instructive. Gratifying results were obtained in record firing. The air-ground liaison work with the 97th Observation Squadron was accomplished with two-way sets in the air and on the ground. Officers and noncommissioned officers of the Squadron went up and observed the troops marching on roads and cross country in different formations, radioing the observations back to the command post. Part of the time was devoted to training the troops in air defense measures in which the airmen thrilled soldiers and civilians alike with thrilling hedge hopping and dry run attacks.

The end of the practice brought the beginning of the theory, and the school bell is heard once again. The curricula of both officers' and enlisted men's schools are quite full. Care of animals, musketry, logistics and cavalry tactics take most of the space on the squadron school program. Lieutenant Colonel Rees will conduct the classes. During November and December a thorough and interesting course in the care of animals has been conducted at the Veterinary Hospital by Major Burlin C. Bridges, Veterinary Corps, post veterinarian. The troopers are pursuing a course somewhat similar to that of the officer's school. Their most interesting work however is the indoor gallery practice with its troop and squadron prizes at stake in the final competitions.

Recruiting under the new allotment went well. Twenty-one new "yellow legs" have been properly inducted and are receiving appropriate training under 1st Lieutenant Edwin M. Cahill.

The entire garrison felt the deepest concern for the critical condition of Major General Leon B. Kromer, Chief of Cavalry, following his emergency appendicitis operation at the station hospital here. He made a gallant and surprisingly rapid recovery, due in good part to his excellent physical condition. Before leaving, General Kromer inspected the animals on the troop picket lines; made a brief address to the squadron officers on the value of the proper care of animals, and received a review by the 1st Squadron, 3d Cavalry, and 7th Field Artillery combined.

The Sunday morning hunt rides and hunt breakfasts started in the middle of October, have enjoyed an increasing popularity. The growing interest crystallized into the formation of the Ethan Allen Hunt Club. On

October 30th offices of the Club were filled as follows: President: Colonel B. F. Miller, 7th Field Artillery; Vice-President: Lieutenant Colonel Thomas H. Rees, Jr., 3d Cavalry; Secretary-Treasurer: Captain Roland A. Browne, 3d Cavalry; Master of Fox Hounds: Major Frederick H. L. Ryder, 3d Cavalry; Joint Master of Fox Hounds: Colonel T. H. Ferenbeaugh, Medical Corps; Whippers-In: Major Herbert E. Watkins, 3d Cavalry and Major W. C. Driebelbies, Medical Corps; Huntsman: Sergeant Roy R. Wood, 3d Cavalry. The Hunt Club has taken over the care of Colonel Ferenbeaugh's pack of imported English hounds. The countryside about the reservation has been found well adapted to hunt riding and the land owners have been generously coöperative.

Captain Cornelius C. Jadwin, recently back from the Olympics, reported for duty November 11, 1936, and assumed command of Troop A, relieving Captain Roland A. Browne.

4th Cavalry—Fort Meade, South Dakota

Colonel John A. Barry, Commanding

Lieutenant-Colonel

Edwin O'Connor

Majors

Joseph L. Philips
John T. Minton
Geoffrey Galwey
Malcolmn Byrne
Hans C. Minuth
Edwin W. Godbold
Philip R. Upton

Captains

Walter F. Jennings
John H. Stodter
William S. Biddle, III
Mitchell A. Giddens
Rufus L. Land

First Lieutenants

Carroll H. Prunty
Thomas F. Taylor

Second Lieutenants

Daniel E. Still
Kelso G. Clow
John F. Rhoades
Edward C. Dunn
Robert J. Quinn, Jr.

Second Lieutenants, Cavalry-Reserve

Alexander P. Sheridan
Vernon W. Brugger
David B. Whittington
Donald D. McGregor
Armistead P. Booker
Jasper J. Kibbe
Jackson B. Williams
Edwin R. Hayes
John G. Farmer

ON October 1st Brigadier General Robert McC. Beck, Jr., received his promotion and turned over the command of the 4th Cavalry at a regimental parade. At "Officers center," officers, noncommissioned officers, colors and guidons came forward, General Beck dismounted and took the oath of his new office. The executive officer, Lieutenant Colonel Edwin O'Connor, and Regimental Sergeant Major D. F. Murphy attached the stars of the advanced grade. General Beck then made a short talk in which he expressed appreciation for the work and coöperation of the regiment during the past year and turned the regiment over to its temporary commander, Lieutenant Colonel O'Connor.

General Beck remained in command of the post until his departure to assume command of the 2d Cavalry Brigade at Fort Bliss, Texas, on October 17th. The best wishes of the entire garrison went with him and Mrs. Beck.

On October 6th Colonel John A. Barry joined and assumed command of the regiment, and upon departure of General Beck, took over the command of Fort Meade.

5th Cavalry—Fort Clark, Texas

Colonel Robert C. Richardson, Jr., Commanding

Lieutenant Colonel

Charles L. Clifford

Majors

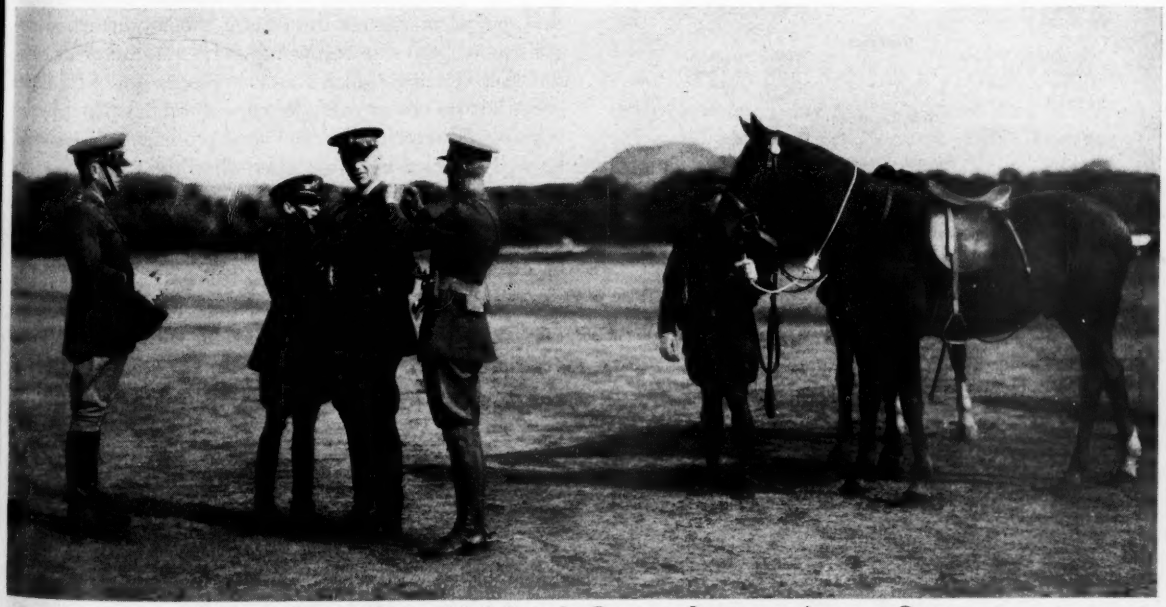
Calvin DeWitt, Jr.
James V. McDowell
Andrew J. Wynne
Lucien S. S. Berry
Halbert H. Neilson

Captains

Carleton Burgess
Carl W. A. Raguse
Clark L. Ruffner
Hubert W. Ketchum, Jr.
Ralph E. Ireland
Murray B. Crandall
William O. Heacock
George V. Ehrhardt

First Lieutenants

Brendan McK. Greeley
Angelo R. Del Campo, Jr.
William F. Damon, Jr.
Robert W. Rayburn
Joseph F. Haskell
Charles F. Harrison
Robert E. Arnette, Jr.



BRIGADIER GENERAL ROBERT McC. BECK, JR., RECEIVING INSIGNIA OF ADVANCED GRADE

Lieutenant Colonel Edwin O'Connor and Sergeant Major D. F. Murphy each attach a star while Major Malcolm Byrne, Adjutant, 4th Cavalry, is a close observer of the ceremony.

Second Lieutenant

McPherson LeMoyne

Second Lieutenants Cavalry-Reserve

John R. Graham — Robert C. Cross
Dan S. McMillin — Edward O. Nevills
Brooks W. Rogers — Thomas J. Walsh

EVERYBODY here is pleased with the excellent showing made by this regiment in the 1st Cavalry Division Horse Show and Polo Tournament this fall.

The horse show team consisted of Lieutenant Angelo R. Del Campo, Sergeant Owens, Troop A, Sergeant Giles, Machine Gun Troop, Sergeant Mucciante, Troop F, and Corporal Woodzell, Troop E. The following classes were won by the 5th Cavalry: the Inter-Unit Jumping Competition, the Enlisted Men's Fault and Out, the Enlisted Man's Championship, the Best Playing Polo Pony, the Middle and Heavyweight Polo Pony, and the Polo Bending Race. Our team was awarded the following ribbons: one championship, six firsts, seven seconds, four thirds, and four fourths.

The 5th Cavalry sent two polo teams to Fort Bliss to compete in the annual tournament.

The training season has begun and this year's recruits are quickly being trained to the point where they can help maintain the regimental tradition of high efficiency.

New additions to the roster of officers are Captain Raguse and 1st Lieutenant Haskell.

6th Cavalry—Fort Oglethorpe, Georgia

Colonel Charles Burnett, Commanding

Colonel

Clarence A. Dougherty

Lieutenant Colonels

Howell M. Estes — John Kennard
Henry L. Flynn

Majors

Melvin S. Williamson — Milton H. Patton
Rufus S. Ramey — Robert O. Wright
Thomas D. Wadelton — William R. Hamby
Carlisle B. Cox

Captains

Garnett H. Wilson — Walter Burnside
Arthur N. Willis — H. Jordan Theis
Ralph M. Neal — Logan C. Berry
Joseph K. Baker

First Lieutenant

Hamilton H. Howze

Second Lieutenants

John F. Franklin, Jr. — Paul M. Jones
Charles J. Hoy — Stephen W. Holderness
William R. Prince — Francis McD. Oliver, Jr.

Second Lieutenants, Cavalry-Reserve

George E. Sapora — Walter B. McKenzie
Roger E. Towne — John T. McKnight
Robert B. Lincoln — Robert E. Snelling
William S. Huff — John J. Flynt
John D. Bowden, Jr. — Howell H. Prothro
Jeff F. Hollis

TARGET season for the rifle was completed in October and by the middle of November the light machine guns had had their turn on the range.

Troops are absorbing and putting the soldier touch to their new members, while the recruit detachment grinds away making precision men out of likely looking youngsters who have just "joined up."

Remount training and equitation classes for officers, ladies and children are progressing under the handicap of a rainy season.

A short but interesting polo season ended early in November with the Dragoons and Hussars having each won the same number of games. "Ties" seemed to be in order this year. Two good, fast games were played here with excellent teams from Fort Benning and both games resulted in identical tied scores: 6 to 6.

Hunting continues. Large fields of ladies, children, officers, civilian friends, and soldiers, turn out with enthusiasm for the wonderful gallops through the beautiful woods and fields of Chickamauga Park. The pack has greatly improved under the Mastership of Captain Walter Burnside, and many young hounds are coming along to add their voices to the song of the chase.

A series of equestrian sports was conducted from October 30th to November 1st, inclusive.

And now: Drills—basketball—schools—housekeeping. So starts the winter.

7th Cavalry—Fort Bliss, Texas

Colonel J. K. Herr, Commanding

Lieutenant Colonels

Harding Polk — Otto Wagner
Sidney V. Bingham

Majors

Edward F. Shaifer — Christopher C. Strawn
Waldemar A. Falck — Eugene A. Regnier
Donald R. Dunkle — Raymond E. S. Williamson

Captains

Samuel R. Goodwin — Wesley W. Yale
Christian Knudsen — Robert L. Howze, Jr.
Robert Edwards — John L. Depew
George W. Bailey, Jr.

Second Lieutenants

Carl D. Womack — Benjamin W. Heckemeyer
Harry E. Lardin — Howell M. Estes, Jr.
John S. Growdon — Edward W. Williams
Francis J. Murdock, Jr. — Creighton W. Abrams, Jr.
Caesar F. Fiore — Hiwert S. Streeter
Vernon P. Mock — Albert B. Turner
Andrew J. Boyle

Second Lieutenants, Cavalry-Reserve

Francis Daugherty — Frank W. Fruitman
Richard S. Davies — Walter E. Arnold
Robert O. Erwin — Kenneth S. Cox

DURING the month of September the regiment engaged in routine duties and the supplemental target season, both rifle and pistol. The training of Thomason Act Reserve Officers and a goodly number of recruits left no one at ease. Reserve officers assisting in the training of recruits became very proficient and should be well schooled by November when the training season starts.

Polo and horse show teams practiced diligently all month in preparation for the October Polo Tournaments and 1st Cavalry Division horse show. The senior polo team originally lined up with Major Falck at one, Captain Yale at two, Captain Howze at three and 2d Lieutenant Estes at four. The unfortunate injury of Major Falck in the midst of the polo tournament and just a few days before the horse show was a great loss to the regiment. 2d Lieutenant Womack, however, took Major Falck's place and turned in several spectacular performances. His graduation to the senior team, however, was a severe blow to the junior team. The 5th Cavalry again this year wrecked our polo aspirations in the division tournament, but Colonel Herr is already planning for next year.

The horse show team maintained the usual high qual-

ity of riding displayed by the 7th Cavalry teams, and considering the unusually stiff competition offered by the 5th, 8th, and 12th Cavalry teams, performed admirably.

8th Cavalry—Fort Bliss, Texas

Colonel Frank Keller, Commanding

Colonel

Innis P. Swift

Lieutenant Colonels

Joseph P. Aleshire — Benjamin F. Hoge

Majors

John W. McDonald — Holmes G. Paullin
Thomas G. Hanson, Jr. — Ceylon O. Griffin
Horace W. Forster — Harold E. Eastwood

Captains

Darrow Menoher — George C. Claussen
Thomas F. Sheehan — August W. Farwick
John L. Ballantyne — Charles H. Valentine

First Lieutenants

James L. Hathaway — James H. Polk

Second Lieutenants

Theodore F. Hurt, Jr. — Henry T. Cherry, Jr.
James W. Snee — Charles P. Walker
Joseph A. Cleary — Bruce Palmer, Jr.
Norman A. Loeb — Roy W. Cole, Jr.
James D. Alger — Russell V. D. Janzan
Ralph E. Haines, Jr. — Robert E. O'Brien, Jr.
William V. Martz

Second Lieutenants, Cavalry-Reserve

John F. Troja — Charles B. Layton
Lynnford S. Wilson — David M. Jones

ON November 1st Colonel Frank Keller, in addition to commanding the regiment, assumed the duties of Acting Chief of Staff, 1st Cavalry Division and Acting Executive Officer of Fort Bliss, Texas.

On October 5th Colonel Innis P. Swift was assigned to duty as executive officer of the regiment; and is Acting Regimental Commander.

On November 7th Lieutenant Colonel Benjamin F. Hoge was relieved from further duty with the regiment and was attached to Headquarters Special Troops, 1st Cavalry Division.

On October 19th Major John W. McDonald was relieved from command of the 2d Squadron, and on October 26th was placed on special duty as Assistant to the Assistant Chief of Staff, G-3, 1st Cavalry Division.

On October 16th Major Horace W. Forster was assigned to the regiment, and assumed command of the 2d Squadron.

During the months of September and October, 2d Lieutenants Bruce Palmer, Jr., Roy W. Cole, Jr., Russell V. D. Janzan, and Robert E. O'Brien, Jr., all graduates of the 1936 class at the United States Military Academy, were assigned to the regiment.

On October 25th 2d Lieutenant James C. Stewart, Cavalry-Reserve (Thomason Bill) was relieved from further active duty with the regiment, to accept a position in civil life.

During October the regiment completed the supplemental season in rifle and pistol firing with very good results. October 21-24 entries from the regiment competed in the 1st Cavalry Division horse show and succeeded in carrying off their share of ribbons.

The Senior and Junior polo teams competed in the Southwestern, 1st Cavalry Division and Junior Tournaments during October, and although neither team placed, gave indications of developing strong contenders for the coming spring tournaments.

Sixty recruits who had completed six weeks of recruit drill under 2d Lieutenant Ralph E. Haines, Jr., regimental recruit instructor, were turned to duty with their organization on October 30th.

On November 6th the regiment participated in a garrison review for the Corps Area Commander, Major General Herbert J. Brees.

On November 11th the 1st Squadron, Major Thomas G. Hanson, Jr., commanding, participated in an Armistice Day parade in El Paso.

The training season opened November 1st and the regiment is now busily engaged in a series of regimental and brigade tactical problems.

The troop basketball league commenced on October 19th. Headquarters Troop is leading the league with four wins and no losses. However, both Troop A and Machine Gun Troop have strong teams and the league should be a close one. With several recruits showing extremely well, prospects for the regimental team are good.

9th Cavalry—Fort Riley, Kansas

Lieutenant Colonel Cuthbert P. Stearns, Commanding
Lieutenant Colonel John P. Wheeler

Majors

Joseph M. Tully — John T. Cole
George S. Andrew — Kent C. Lambert
John J. Bohn — George E. Huthsteiner
William C. Chase — Edwin M. Sumner
Thomas F. Limbocker — Charles H. Unger
John L. Rice — Thomas W. Herren
Clinton A. Pierce

Captains

Russell C. Winchester — Oscar W. Koch
Samuel P. Walker, Jr. — James H. Phillips
George A. Rehm — Halley G. Maddox
Gilman C. Mudgett — Carl D. Silverthorne
Charles G. Meehan — C. Stanton Babcock
Milo H. Matteson — David E. Bradford

First Lieutenants

Raymond W. Curtis — Frank D. Merrill
Robert W. Porter, Jr. — Franklin F. Wing, Jr.
James O. Curtis, Jr.

10th Cavalry (less 1st Squadron and Machine Gun Troop—Fort Leavenworth, Kansas

Lieutenant Colonel N. Butler Briscoe, Commanding

Major

Murray H. Ellis

Captains

William N. Todd, Jr. — John P. Willey
Frederic deL. Comfort — Wallace H. Barnes
Peter C. Hains, III

HORSE show teams have recently represented the 10th Cavalry in the Second Annual Leavenworth Horse Show, which was held in the Fort Leavenworth lower riding hall under the auspices of the Chamber of Commerce, of Leavenworth. The classes were for three- and five-gaited saddle horses, combination harness and five-gaited horses, road hacks, light and heavyweight hunters, jumping classes and exhibition trick riding. This was the first time that the post has ever had a horse show of this nature in the riding hall but the variety proved of great interest to the spectators. A post team was sent to the American Royal Horse Show, Kansas City, Missouri. In these mentioned shows the 10th Cav-

alry won a number of first places as well as red, yellow, and white ribbons.

The first of a series of five winter horse shows held under the direction of the Fort Leavenworth Hunt will be conducted November 21st. Every effort will be made to have the classes in the winter shows filled from numerous children's and ladies' regular equitation classes.

On October 13th, a composite troop of the 10th Cavalry, under the command of Major Murray H. Ellis, proceeded by truck to Kansas City, Missouri, where it remained during the visit of President Roosevelt to that city.

The football squad under the leadership of Captain Wallace H. Barnes, consisting of about forty men from all of the organizations of the 10th, is well along towards its third successful season. Football, the major sport of the regiment, is supported not only by the 10th, but by the other enlisted and officer personnel of the post. The team has lost but one game this season, giving us a three-year total of twenty-two victories, two defeats, and one tie. This includes four victories out of five games with our traditional rival, the 9th Cavalry. With the Thanksgiving Day game at Fort Riley, it looks as though Fort Leavenworth activities in the 10th will be nil for that day since the team has a large group of followers.

Machine Gun Troop, 10th Cavalry—Fort Myer, Virginia

Captain Charles H. Reed, Commanding

First Lieutenants

Henri A. Luebbermann — Charles M. Iseley

2d Squadron, 10th Cavalry—West Point, New York

Lieutenant Colonel John B. Thompson, Commanding

Captains

Clarence K. Darling — William J. Reardon
Andrew A. Frierson

11th Cavalry—Presidio of Monterey, California

Colonel Troup Miller, Commanding

Lieutenant Colonel

William H. W. Youngs

Majors

Harry L. Branson — Norman N. Rogers
Charles H. Gerhardt — Alden H. Seabury
Donald S. Perry — James C. Ward

Captains

Daniel De Bardeleben — Donald H. Nelson
William S. Conrow — Paul A. Ridge
Edwin P. Crandell — Phillip B. Shotwell
Claude W. Feagin — Marcellus L. Stockton, Jr.
Paul G. Kendall — James H. Walker

First Lieutenants

Robert H. Bayne — William H. Thompson
Charles E. Leydecker

Second Lieutenants

Fredrick W. Barnes — Travis L. Petty
Robert G. Fergusson — Wilfred H. Tetley
Thomas D. Gillis — Donald O. Vars
Perry B. Griffith

Second Lieutenants, Cavalry-Reserve

Jay E. Gensler — Donald E. Scarf

THE 11th Cavalry has devoted the preceding two months principally to range practice on the Camp Ord Military Reservation. All firing has been completed with the exception of that scheduled for December, consisting of firing at towed airplane targets. The regiment is now reassembled at the Presidio. Schools are under way and troops are devoting the training time to basic training and to preparation for participation in the Cavalry Leadership Test for Small Units, scheduled for late November. The regiment with all available personnel and with full field equipment held its annual mobilization test on November 21st. The Inspector General, Ninth Corps Area, conducted his annual inspection of the Presidio of Monterey commencing November 17th.

A pistol team, representing the 11th Cavalry, engaged in the annual McQuade Trophy Pistol Team match held under the auspices of the 250th Coast Artillery, on the Leona Heights Range, Oakland, California. 2d Lieutenant Thomas D. Gillis, 11th Cavalry, acted as coach and team captain. Six regimental teams participated in the match including the 30th Infantry team, from the Presidio of San Francisco. The 11th Cavalry was second being nosed out of first place by the 250th Coast Artillery.

A post polo team, of which the 11th Cavalry forms an important part, soon promises to be a reality. A stable has been organized, horses are being trained, and young officers are being instructed in fundamentals. Captain Paul G. Kendall, 11th Cavalry, has been designated as the polo representative and hopes to make sufficient progress by early 1937 to permit participation in local competitions at Del Monte.

The 11th Cavalry prepared and exhibited a display for the Monterey County Fair held in the city of Monterey the latter part of October. The regimental display, consisting of cavalry matériel and weapons, attracted many spectators. Troop F, commanded by Captain Claude W. Feagin, responded to the request of the local Breakfast Club, installed field cooking facilities and served breakfast to members of the Breakfast Club as the opening feature of the Fair.

Entertainment for enlisted men, during the preceding two months, was provided through regular dances, wrestling and boxing matches in the new recreation center, and competition afforded by the softball league.

Changes in officer personnel, since the last issue of The CAVALRY JOURNAL, includes the assignment to the regiment of Captains Daniel De Bardeleben and Frank J. Thompson, both now stationed in the Philippine Islands.

12th Cavalry (Less 2d Squadron)—Fort Brown, Texas

Colonel Kerr T. Riggs, Commanding

Lieutenant Colonel

Frederic W. Whitney

Majors

Wilson T. Bals — Harry A. Buckley
Heywood S. Dodd — Theodore M. Roemer
Philip C. Clayton

Captains

Benjamin A. Thomas — Raymond D. Palmer
Gordon S. Armes — Basil L. Riggs
Otto R. Stillinger

First Lieutenant

Marvin C. Johnson

Second Lieutenants

John W. Darrah, Jr. — Ewing C. Johnson
Richard A. Smith

Second Lieutenants, Cavalry-Reserve

Edward M. Neal — William L. Young

THE 12th Cavalry has completed the supplementary target season. On November 1st the regular training season began.

During the past target season, the Machine Gun Troop, under the command of Major Heywood S. Dodd, made a very splendid record. Ninety men fired the regular course, and of these, fifty-eight qualified as experts; twenty-five as 1st class gunners and seven as 2d class gunners. Not a man failed to qualify.

Three recruiting parties have been out combing the lower Rio Grande Valley. Results have been gratifying.

Forty more remounts are expected to arrive before the middle of December. So far the type of remounts received at Fort Brown has been excellent, and many fine prospects are being developed.

Polo, under the direction of Major Harry A. Buckley, is progressing nicely despite the usual handicaps due to floods and torrential rains.

Major Buckley took the 12th Cavalry horse show team to the 1st Cavalry Division horse show at Fort Bliss. Eight enlisted men and ten horses made the long trip. The whole regiment is proud of the showing they made despite adverse training conditions prior to their departure.

Work on rehabilitation of the post is in full swing. Roads are being constructed and buildings repaired. The officers' club has been entirely renovated. Mosquito prevention work, including cleaning of the resaca shores, is also progressing.

During the past week, Major General Herbert J. Brees, commanding the Eighth Corps Area, inspected the post.

Colonel Frank K. Chapin departed on October 2d for his new station in Boston. He was accompanied by his family.

Major Harry W. Maas left November 8th, on four months' leave after completion of which he will report to his new station at the Port of Embarkation, Brooklyn, New York.

Captain Benjamin A. Thomas is on C.C.C. duty at Silver City, New Mexico.

Technical Sergeant Horace E. Nichols, 12th Cavalry Band, has been promoted to the rank of Warrant Officer. His place as Technical Sergeant in the Band has been taken by Staff Sergeant Harry L. Dalton.

* * *

2d Squadron, 12th Cavalry—Fort Ringgold, Texas

Lieutenant Colonel John A. Considine, Commanding

Majors

George P. Cummings — Herbert L. Jackson

Captains

John L. Hitchings

First Lieutenants

John J. LaPpage — Samuel L. Myers

Second Lieutenant

Edward D. Mohlere

Second Lieutenants, Cavalry-Reserve

Glen C. Eberle — Thomas Dooley

A NEW hunt has been born, a hunt without official recognition, but which nevertheless promises to be one of the most thrilling sporting influences which has been seen on the border since the turbulent days of 1917-18. It is a hunt well suited to the peculiar characteristics of this brushy country of South Texas where cross country riding is difficult and galloping is well nigh impossible.

Early in September the Cavalry School hunt was kind enough to send us three couples of fine, strong hounds. The purpose of securing these hounds was twofold. First, to hunt the lions and bobcats with which this region is infested, and, secondly, to provide an enjoyable sport for the members of this garrison where sports, other than hunting, are rather limited. The hounds were received with tremendous enthusiasm by both men and officers. Training started at once. And now that autumn is beginning to set in, the nights are getting a little colder, and the predatory animals are getting a little bolder in their forays on lambs and calves in the neighboring ranches, all is set for the final test. One hound has been hunted with considerable success as a member of a local pack. He has learned the ropes and is expected to lead the others. What happens is as yet a matter of conjecture but all will be reported in future editions of this column.

All officers who may read this item are cordially invited to come to Ringgold and join us in one of our hunts. Whether we get any lions or not, the *game* is well worth the price of admission, merely your presence at this station during any of the cool months.

This squadron returned on October 2d from a most successful season at the Boca Chica Range. With the exception of one or two small pseudo hurricanes, the weather was excellent for rifle firing, the results being better than ever previously obtained. Of 189 men firing the course, 43 qualified as experts and only 2 were unqualified.

Orders have been received transferring Captain Verne D. Mudge to Fort Bliss, Texas.

1st Lieutenant Samuel L. Myers has received orders for the Philippine Department, sailing on or about April 9, 1937.

The 20 remounts which arrived at this station on June 17th, completed their training on October 8th. This training period was climaxed by a competition in which a prize of $25.00 was awarded the winner. Remounts were shown over a course similar to that used at the Cavalry School. The pistol phase was scored on a basis of 100 points and consisted of 1 run around the pistol course with blank ammunition. The jumping phase was scored on a basis of 200 points and consisted of 7 jumps not exceeding 3 feet, 3 inches, the last jump being a broad jump about 18 inches high and 9 feet wide. Several per-

fect scores were turned in on this phase. The third and last phase, schooling, was scored on a basis of 300 points and consisted of 17 movements intended to show the education of the horse up to include the two-track and gallop departs. The final results were most gratifying. Corporal Jesse Pope of Troop E, riding a 5-year-old black gelding 9P90 was the winner with a total score of 575.5 out of a possible 600. This horse showed such good prospects that he was sent to the 1st Cavalry Division Horse Show at Fort Bliss in October and won second place in the remount jumping.

The post is showing a remarkably improved appearance. All buildings are being painted, roads resurfaced, a new sewer and water system is being installed, several buildings are being repaired and hundreds of citrus and shade trees are being planted. Ringgold, already a very attractive post, should be one of the beauty spots of the Army when this excellent work is completed.

13th Cavalry (Mechanized)—Fort Knox Kentucky

Colonel Charles L. Scott, Commanding

Lieutenant Colonel

John D. Kelly

Majors

Harold C. Fellows — Bertrand Morrow

Captains

Claude A. Thorp — John H. Claybrook, Jr.
Kevin O'Shea — George P. Berilla, Jr.
Granville V. Morse — William A. Fuller
Jesse B. Wells — Malcolm D. Jones, Jr.

First Lieutenants

Paul A. Disney — Harry J. Fleeger
George W. Coolidge — Harry W. Candler
Louis M. deL. deRiemer — William B. Fraser
Loren F. Cole

ON July 10th the regiment received word that it would be mechanized and transferred to Fort Knox, Kentucky. Plans were prepared immediately and arrangements made for the move. First, training was concentrated on firing and this work was completed by August 15th. Considering the large number of men who had joined the regiment within the previous year, very good results were obtained. Ninety-two per cent of the men firing qualified with the rifle.

Almost simultaneous with the completion of the range season, orders were received directing that nine officers and 229 enlisted men of the regiment move on September 5th, the men to be moved to consist of noncommissioned officers, privates first class and specialists, and that all others be transferred to the 2d Cavalry. Due to the lack of quarters at and in the vicinity of Fort Knox, no married men under grade three were required to move, but were discouraged from making the move. The final roster of the regiment that moved, consisted of 14 noncommissioned officers of the first three grades, 45 sergeants, 53 corporals, 80 privates, first class, and 37 privates practically all of whom had specialist ratings.

All equipment and memorandum receipt property other than that required by a mechanized regiment of cavalry was either transferred to other units at Fort Riley or turned in to the supply branches at that post.

On September 1st the actual transfer of men to the 2d Cavalry was made and the 13th Cavalry was converted into a detachment for ease of administration, and moved into one barracks building. Troop funds and Post Exchange stock were liquidated and disposed of in accordance with AR 210-50.

On September 5th the regiment entrained for Fort Knox after a very rousing send-off by the entire garrison at Fort Riley and was started on its way to becoming the Army's second mechanized regiment.

The next day at 2:30 P.M. the regiment arrived at its new station and at once started unloading and getting settled. Within a few days, six officers and 59 specially selected noncommissioned officers and specialists were transferred into the 13th Cavalry from the 1st Cavalry. Work was started on the old cantonment barracks in order to make them habitable and comfortable for the winter. Recruiting was started and by November 1st approximately 120 recruits had been enlisted. Key men brought from Riley and obtained by transfer from the 1st Cavalry are now attending the Brigade Maintenance and Radio Schools and within a short time the regiment will be ready to take over and operate its new equipment which should start coming in shortly after Christmas.

14th Cavalry (Less 1st Squadron)—Fort Des Moines, Iowa

Colonel John C. Pegram, Commanding

Lieutenant Colonels

Herman Kobbe — Mack Garr

Majors

Joseph W. Geer — George A. King
John C. Daly — Henry H. Cheshire

Captains

Earl F. Thomson — Harry D. Eckert
Thomas J. Randolph

First Lieutenants

Milton A. Acklen — Joseph H. O'Malley
James B. Corbett — Matthew W. Kane
James C. Blanning

Second Lieutenants

John J. Davis — Donald P. Christensen
Ralph S. Harper — Carl La V. Rickenbaugh

Second Lieutenants, Cavalry-Reserve

Darwin L. Johnson — Donald D. Dickson
Edward H. Telfair — Jack F. Avery
Lawrence A. Petersen — Sterling H. Abernathy

WITH the return of the 14th Cavalry from its annual practice march on October 8th activities at Fort Des Moines are again in full swing.

The scout car platoon (less one section) of Headquarters Troop, under the command of 1st Lieutenant Matthew W. Kane, returned from the 14th Brigade maneuvers at Camp Ripley, Minnesota, on September 20th. The entire platoon participated in the Second Army Maneuvers at Camp Custer, Michigan, earlier in the summer and received invaluable training.

On September 29th the regiment (less 1st Squadron) left Fort Des Moines for a 220-mile march. The weather throughout the march was cool and generally clear with the exception of occasional night rains. People of the towns along the route of march received the regiment enthusiastically and cordially, and expressed much interest in looking over the camps and seeing how a cavalry regi-

ment lives in the field. After combining a forced march and a night march for a total of seventy miles in twenty-eight hours, the regiment returned to the post at about 11:00 o'clock on the morning of October 8th.

On October 23d the post was honored with a visit from the new Corps Area Commander, Major General Stanley H. Ford. A garrison review was followed by an officers' call at which General Ford made an informal talk and met the officers of the post.

One platoon each from Troops E and F, under the command of Lieutenants James C. Blanning and James B. Corbett respectively, are at present engaged in the leadership test for small units.

Mounted pistol practice was begun immediately after the return of the regiment from its annual march and was completed by October 31st despite adverse weather conditions.

The outdoor polo season was brought to a close the latter part of October and indoor polo will be resumed in the riding hall about December 1st. The 14th Cavalry has an enthusiastic turnout for polo and with the co-operation of the Wakonda Club team of Des Moines we are looking forward to a good winter season.

Two officers have come to the regiment since the last report. Major Henry H. Cheshire, who has been on sick leave the past few months, returned to the post for duty on October 8th and a newcomer to the regiment is Captain Earl F. Thomson who joined the 14th on the 9th of November after a summer in Europe with the Olympic Equestrian Team.

Riding classes for members of the garrison and civilians in the vicinity of Fort Des Moines have been resumed with 1st Lieutenant M. A. Acklen in charge of the ladies' class and 2d Lieutenant John J. Davis instructing a mixed class. A children's class is being conducted on Saturdays by Major Joseph W. Geer.

1st Squadron, 14th Cavalry—Fort Sheridan, Illinois

Lieutenant Colonel Paul R. Davison, Commanding

Majors

Paul H. Morris — Brock Putnam

Captains

E. C. Greiner — Clyde A. Burcham
Henry S. Jernigan

First Lieutenant

Jules V. Richardson

Second Lieutenant

Carl H. Baehr, Jr.

Second Lieutenants, Cavalry-Reserve

Joseph M. Johnson — Alfred A. Beck
Herman M. Marlow — Gale C. Corley
Michael T. Galland

THE squadron returned to Fort Sheridan from Camp Custer, Michigan on August 28th. For two weeks there was intensive activity getting ready for the Fort Sheridan Horse Show. During the show there was a Military Exhibition. Troop A staged an exceptionally good rodeo and monkey drill stunt. Troop B put on a colorful musical precision fancy drill. The machine gun units of both troops demonstrated the mobility of going in and out of action.

In the horse show proper the squadron captured 5 blue, 7 red, 4 yellow, and 4 white ribbons. Blue ribbons were won by: *Firefly* ridden by Lieutenant Colonel Davison, *Chicken* ridden by Private Thewlis and Kowalski, *Jonnie Walker* ridden by Sergeant Krumpholz, and *Wonder Boy* ridden by Jean Schwertfeger, daughter of 1st Sergeant Schwertfeger.

Following the horse show the squadron took to the range and fired through its complete known distance, rifle, pistol, and machine gun target practice. The squadron qualified 89% with the rifle.

The Fort Sheridan Soccer championship was won by Troop B. Sergeant Gaffney, Privates Lah and Cox were the outstanding post stars in the two soccer leagues.

Twenty exceptionally fine remounts have been received from Fort Robinson. They are undergoing regular training and will be fit for full field service by June. Twenty more remounts will be received from the same depot shortly.

The squadron made a creditable showing at the International Stock Show in Chicago. Individual horses and a military jumping team were entered. Several indoor polo games were played with Chicago civilian and National Guard units.

Private Kalber, the corps area middleweight boxing champion will soon be discharged at the end of his enlistment. His departure will be a great loss to the squadron.

Second Lieutenant Carl H. Baehr, Jr., and the colors participated in the St. James Church, Chicago, Armistice Services. A detachment from Troop A participated in the Armistice ceremonies in Chicago on November 11th.

Captain Lawrence Smith left the Squadron early in September for the Cavalry School and Captain Kenneth G. Hoge departed for Washington about the same time to serve a detail in the Adjutant General's Department.

Major Paul H. Morris joined the 1st of September and is serving as Executive. Captain Jernigan joined November 15th and is in command of Troop A.

26th Cavalry (P.S.)—Fort Stotsenburg, P.I.

Colonel George Grunert, Commanding

Lieutenant Colonels

Edgar W. Taulbee — Herbert E. Taylor

Majors

Jay K. Colwell — James Van V. Shufelt
Gordon J. F. Heron — Richard E. Tallant
Roye P. Gerfen — Herman F. Rathjen
Cornelius F. O'Keefe — Earnest A. Williams
John P. Scott

Captains

Charles R. Chase — Morton McD. Jones
Cary B. Hutchinson — Zachary W. Moores
Redding F. Perry — Frederick R. Pitts
Clyde Massey — Thomas Robinson
John L. Ryan, Jr. — Charles A. Sheldon
Frank J. Thompson — William P. Withers
Paul C. Febiger — Mortimer F. Sullivan
Benjamin H. Graban — Eustaquio S. Baclig
Marcus E. Jones

First Lieutenants

Charles C. W. Allan — Wayne J. Dunn
Brainerd S. Cook — Robert G. Lowe
Gerard C. Cowan

OCTOBER 1st, Organization Day, saw fourteen candles on the regimental birthday cake. Major Gordon J. F. Heron gave a short talk on the past achievements and the future prospects of the regiment, and then welcomed the eighteen recruits who had joined during the last year. A field meet with a number of humorous entries polished off the day.

A case of surra in a nearby barrio restricted the training area of the regiment during September and, consequently, field work was somewhat hampered. Now, however, we are back to the normal training, field exercises and night marches being sandwiched in between the typhoons of October.

The regiment has attached to it for training nineteen Filipino officer candidates, who if successful, will receive appointments in the new Filipino Army as third lieutenants. These candidates are attached to troops within the regiment for training during the regular morning drills or exercises. The afternoons are given over to special instruction under Captain Clyde Massey, senior instructor and Captain Charles A. Sheldon, assistant instructor; the evenings to class room work and study periods. These candidates are showing much interest and enthusiasm in their work and should prove of much value to the Filipino Army when commissioned and assigned to their organizations.

The regimental scout car platoon under command of Captain Wm. P. Withers, with 1st Lieutenant Wayne J. Dunn as second in command, in September made a very interesting and instructive three-day reconnaissance to the northern part of Luzon. Majors Jay K. Colwell and Richard E. Tallant and 1st Lieutenant Robt. G. Lowe went along, may we be permitted to say, as kibitzers. The platoon was faced with the problem of covering territory where neither roads nor trails existed—fifteen miles of bogs, mud, sand, small timber land, rice paddies, and high cogon grass were all treated alike. The mission was accomplished; all difficulties overcome. In going over this country, towns and barrios were entered where the inhabitants had never seen a motor vehicle before; the old Spanish road had been wiped out before 1898. It has been whispered that some of the ogling brown youngsters even thought the strange motor expedition was of heavenly origin and that the five officers were godlike personages. This trip proved the value of these vehicles and showed that almost any part of the Island is theirs to conquer.

On September 19th a post field meet was held with the 26th Cavalry winning first place and the 24th Field Artillery (PS) a close second. The 24th Field Artillery evened the score, however, at a later date when they won a series of three soccer games played for the post championship, by defeating the 26th Cavalry two games and playing one game to a tie score.

Polo is now taking form for the coming season of play, ponies are being conditioned, fields are being prepared, and the wooden horse overworked by the polo enthusiasts. The regiment is looking forward to another successful year of polo under the directorship of Captain Cary B. Hutchinson as regimental representative and team captain, but the temporary loss of Captain Marcus E. Jones to polo will be keenly felt. Captain Jones recently underwent an operation which prevents his playing for a number of months to come.

Major Joe C. Rogers left the post on leave to China where he will board the *Grant* sailing from Manila in November for his new station at Fort Ringgold, Texas.

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103d Cavalry—Philadelphia, Pennsylvania

COLONEL MILTON G. BAKER, *Commanding*

THIS regiment is hard at work preparing itself for the future. In addition to the weekly drills of each of the organizations comprising the regiment, an ambitious program has been mapped out that will keep officers and enlisted men not only on their toes but also very much interested.

The noncommissioned officers are going back into a school of their own under the command of 1st Lieutenant Joseph G. Rademan of Troop B. This NCO Troop meets on successive nights every other week for a refresher course that will last until June, 1937. Lieutenant Rademan is assisted by 2d Lieutenant James H. Reynolds, and in addition to theoretical and practical work, several nights will be turned over to other instructors; such as, Major Terrill E. Price, our instructor, who will devote two nights to Horsemanship, Major John Des Islets, who will lecture on Map Reading and Aerial Maps, 1st Lieutenant John R. Day on Machine Guns, and 1st Lieutenant Joseph M. Williams on Rifle Marksmanship. For the units of the 2d and 3d Squadrons, the school will be under the command of Captain George S. Schubert, recently transferred from Troop E to command of the 3d Squadron.

We are continuing the policy of this regiment in having all recruits drill for four weeks before being sworn in. This year, the Recruit Troop is under the command of 1st Lieutenant Lynn L. Detweiler, adjutant of the 1st Squadron, assisted by 2d Lieutenant Robert M. O'Brien, Troop C, and 2d Lieutenant James I. Dufur, Jr., Troop I, as well as a number of noncommissioned officers assigned from other troops. The Recruit Troop will function for 30 weeks and will take the burden of training recruits from the troop commanders, and permit them to devote more time to the training of the other men in their organizations.

The policy inaugurated of having officers' conferences is being continued, with a general meeting of all officers of the regiment once every two months and a meeting of the Philadelphia officers every month. At these conferences, subjects that will benefit the regiment as a whole are discussed and plans are mapped out that will insure the progress of the regiment. In addition to these conferences, outside speakers address the officers at least once a month. These include Colonel Francis H. Pope,

Quartermaster Corps, who will talk on November 9th, on the subject "Functions of the Quartermaster Corps" and Brigadier General Frank C. Burnett, Adjutant General's Department, who on December 8, will talk on "Functions of the Adjutant General's Department."

A staff map problem will be held once a month during the winter, to be participated in by members of the regimental staff together with the enlisted technical specialists.

From early returns, at least 90% of the regiment have qualified with the rifle, and at least 50% with the pistol both mounted and dismounted. This is a great advance over previous years and every Sunday the range at Essington is in use by members of the regiment. The pistol qualifications have been completed at Headquarters Troop farm in Newtown Square, Pennsylvania, where they have erected a pistol course, mounted and dismounted, the use of which they have generously extended to the regiment. The upstate troops are qualifying on their own grounds.

Polo, which was started last year under the direction of Major Terrill E. Price, Cavalry, the instructor here, has leaped forward with great strides, two teams being developed in the outdoor season, those of Headquarters Troop and Troop E, which more than held their own with outside teams during the past outdoor season. Plans are now under way for the indoor season by a committee headed by Major Kirk Swing, 1st Squadron, and from early indications Major Price's efforts will be well rewarded by the type of polo to be played this winter.

Our Chaplain, 1st Lieutenant Stanley V. Wilcox, who has been with us for many years, resigned due to pressure of work, and in his stead 1st Lieutenant Thomas Daly, now attached to the 79th Division, is coming into the regiment. Chaplain Daly was with the regiment at the last encampment and made many friends in the 103d by his activity.

61st Cavalry Division

The following inactive duty training program has been announced for the 302d, 303d, and 304th Cavalry:

General Meeting

October 14th: "Inactive Duty Training Schedule," Colonel Geo. M. Russell; "Observations in Europe," Colonel John R. Kilpatrick, 304th Cavalry; "Second Army Maneuvers," Major D. D. Streeter, 304th Cavalry.

Tactical Meetings

302d Cavalry: Essex Troop Armory, Newark, New Jersey, Third Tuesday. 303d Cavalry: Hirsch, Lilienthal & Co., New York, New York, Second Tuesday. 304th Cavalry: Hirsch, Lilienthal & Co., New York, New York, Second Wednesday.

Subjects for monthly unit conferences under supervision of unit instructors:

November: Map Reading.
December: "The Defence of Bowler Bridge," Graham; Mechanization Situations.
January: Meeting Engagements.
February: Use of Cavalry on Flank of Infantry Units in Contact.
March: Attack of River Line and Establishment of Bridge Head.
April: Cavalry Marches.
May: Close and Extended Order Drill.

Staff Conferences, General

October 21: Review and Discussion of 1936 C. P. X., Major R. W. Cooksey.
November 23: G-2 Procedure and Problem, Lieutenant Colonel J. K. Brown.
December 2: G-3 Procedure and Problem, Major R. W. Cooksey.
January 6: G-4 Procedure and Problem, Major Catesby ap C. Jones.
February 3: G-1 Procedure and Problem, Captain J. S. Rodwell.
March 3: Regimental and Squadron, C. P. X., Major R. W. Cooksey.
March 31: Brigade and Regimental C. P. X., Major R. W. Cooksey.
May 5: Division C. P. X., Major R. W. Cooksey.
May 19: Continuation of Division C. P. X., Major Cooksey.

Lectures

October 26: Conformation of Horses, Cavalry Types, Lieutenant Colonel J. K. Brown.
November 16: General Nathan Bedford Forrest, Major Catesby ap C. Jones.
December 14: The Battle of Le Cateau, Captain J. S. Rodwell.
January 20: Armored Cars, Major Carter R. McLennan.
February 17: Hippology, Lieutenant Colonel J. K. Brown.
March 17: Cavalry in the Marne Campaign, Captain J. S. Rodwell.
April 21: Stuart as a Cavalry Leader, Major Catesby ap C. Jones.

305th Cavalry—Philadelphia, Pa.

COLONEL VINCENT A. CARROLL, Cavalry-Reserve, *Commanding*

BACK in horse-loving Philadelphia, the 305th is enjoying a fall program of such activity that it gives the lie to the expression "Inactive duty."

Every Wednesday a noonday conference and lunch is held at Philadelphia's old Sansom House. At night, twenty to thirty officers ride in the solid traditional armory of Philadelphia's socially prominent First City Troop.

Through courtesy of Captain Crawford C. Maderia and the generosity of two anonymous donors of $500, riding costs have been practically eliminated; 50c covers two hours of energetic equitation, conference rooms, rifle range, showers, towels, etc.

The fourth Wednesday of each month is devoted to the solving of extension course problems.

The immediate future points to a Thanksgiving turkey shoot in which chance, as well as marksmanship, takes a hand; the organization of an indoor polo team, and of a horse show team.

The acquisition of four thoroughbreds (three year olds) from Maryland's race tracks has given impetus to the idea of a regimental farm. The donor, Captain J. "Doug" Grannis, aided by Lieutenants Watson, Howley, Gentle, Collins, Naftzinger and Ogelsby, have located a desirable site near Paoli. It is in perfect native fox country and will offer some fine hunting possibilities.

Colorful annual church services at Ithan Chapel, close by Valley Forge, is listed for November 15th, followed by a tea party at the Merion Cricket Club.

The only sad note of the season was the news of Adjutant Wm. J. Taylor's withdrawal from regimental activity. Business takes him to the midwest. A full turnout at the Sansom House, a gift of a brief case, a beautifully prepared resolution, signified the sincere regret at the loss of this enthusiastic, tireless regimental booster.

Yearly prizes have been offered for activity, ranging from sabers to beer mugs to riding crops to silver bowls.

A publication, "The Stallion," is professionally edited by Lieutenants Howley and MacAfee. It is sent each month to active and inactive members of the regiment.

* * *

306th Cavalry—Baltimore, Md., and Washington, D. C.

COLONEL J. B. P. CLAYTON HILL, Cavalry-Reserve, *Commanding*

THE 306th Cavalry "mobilized" at Fort Myer, Virginia, on August 9th, for the period of active duty training. Preliminary work, in conjunction with the other cavalry regiments of the 62d Cavalry Division, was followed for several days. Tactical rides, as described below, formed the bulk of the instruction. On August 13th, the *march* to Fort Belvoir with full packed saddles was executed. A problem in *reconnaissance* by a reinforced cavalry squadron was carried out en route. This problem involved a formal field order for field officers and captains, and actual *patrolling* by all lieutenants, the zone of reconnaissance being covered by five patrols, preceded by scout cars. Each officer prepared en route a written road report covering roads, bridges, streams, airports, dominating terrain features, and available forage supply. Upon arrival near Fort Belvoir that area was found to be occupied by Red infantry, whereupon the squadron commander, in accordance with his instructions, established a standing *counterreconnaissance screen,* all officers determining by reconnaissance the exact disposition of their counterreconnaissance detachments. The Reds attempted to penetrate the screen but were ejected by an *attack* of the main body of the squadron. The next day the squadron drove in the Red outposts and discovered a strong Red defensive position. This they were about to attack when very greatly superior Red forces were located advancing toward both flanks of the squadron. The squadron commander at once *withdrew* to a position in readiness near Potters Hill School. The following day a reinforced Red infantry brigade advanced northward from Fort Belvoir, whereupon the squadron commander fought *delaying actions,* blocking the advance of the Red main columns and at the same time harassing their flanks. He made his final stand with his right flank resting on the unfordable two-mile long Alexandria Reservoir and his front and left flank covered by a 2,000-yard field of fire. He held this position until the arrival of the rest of the 62d Cavalry Division, which stopped the Red advance.

A tactical ride, "Squadron and Troop in Advance Guard Action," was also solved while in camp. In addition, troops from the 3d Cavalry under 1st Lieutenant John L. Hines, Jr., put on several splendid tactical demonstrations, such as, "Cavalry Troop in Advance Guard Action" and "Cavalry Troop Within the Regiment in Deployed Defense." All of the facilities at Fort Myer were employed by Colonel Jonathan M. Wainwright, 3d Cavalry, to further the successful operation of the camp, and the smoothness and ease with which the camp functioned at Fort Belvoir reflected the efficiency and interest exerted by Major Arthur P. Thayer, 3d Cavalry, who commanded the troops there. The quality and fine operation of the mess, which functioned under 1st Lieutenant John R. Pugh, 3d Cavalry, were factors which contributed strongly to the success of the camp.

The school year began on October 1st, and the conferences held so far presage an interesting and successful year. Programs conducted during October were as follows:

WASHINGTON:

Date	Subject of Conference	Instructor
1st	Orientation and General Discussion.	Major John C. Mullenix, Cav.
	Lecture: Second Army Maneuvers with particular reference to the Operations of the Mechanized Cavalry.	Maj. Frank L. Whittaker, Cav.
15th	*Lecture:* Cavalry in Cooperation with other Forces.	Major Louis L. Martin, Cav.
	Conference: Solution of Map Problems.	Principal: Captain W. R. Irby, 306th Cavalry. Assistant: Lieutenant Y. C. Mills, 306th Cavalry.
18th	Equitation 8:30-10:00 A.M.	Major Mullenix Lieutenant E. M. Perkins, 306th Cavalry.

BALTIMORE:

Date	Subject of Conference	Instructor
6th	General Meeting: *Lecture:* Mechanized Cavalry.	Major Robt. W. Grow, Cav.
10th	Regimental Dinner. *Lecture:* Strategic Raw Materials.	Major Mullenix.
28th	*Conference: Lecture:* Jackson's Valley Campaign.	Major Mullenix.

As noted above, a regimental dinner and conference, sponsored by the Baltimore Units of the regiment, was held at the Hotel Longfellow in Baltimore on Saturday evening, October 10th. The Regimental Commander, Colonel J. B. P. Clayton Hill, acted as toastmaster and cleverly guided us through the vicissitudes of the evening. Colonel John D. Long (our division chief of staff), Colonel Edward M. Offley, and Lieutenant Colonel Henry McE. Pendleton, of division headquarters, were guests of the regiment. All enjoyed the opportunity to be together, and the conception and execution of the entire affair speak most favorably for the care and interest displayed by Major W. H. Skinner, Captain V. J. Blondell, and the other officers who promoted the event.

307th Cavalry—Richmond, Va.

COLONEL MATTHEW F. JAMES, Cavalry-Reserve, *Commanding*

THE regiment started the inactive duty training period with the largest monthly conference attendance in its history.

Our unit instructor contacted the outlying stations and held three conferences with the following attendance: Lynchburg, Virginia, 10; Lexington, Virginia, 10; Charlottesville, Virginia, 32. We expect to continue the good work.

With the fine record of the regiment in extension school work last year, we have something before us in order to exceed it.

Richmond and Norfolk had better watch the outlying stations on attendance records.

3d Squadron and Machine-Gun Troop, 307th Cavalry—Norfolk, Va.

MAJOR WILLIAM J. YETTON, Cavalry-Reserve, *Commanding*

WE regret to announce that Major James R. Mullen, who has been in command of the squadron for many years, has applied for and received his transfer to the inactive Reserve, because of business activities which take him out of the city so much that he could no longer devote the proper time to his duties as a unit commander. Major Mullen was first commissioned during the World War, is an experienced and capable officer and will be a hard man to replace.

We cordially welcome Major William J. Yetton, 307th Cavalry, of Monroe Hall, Westmoreland County, Virginia, who has been assigned to command the squadron, and hope that he will make us a visit in Norfolk soon.

The unit school this season is taking up a two-sided map maneuver, the situation involving two hostile reinforced cavalry brigades. All the latest adjuncts to cavalry action, including armored cars, combat cars, aviation, gas and smoke, motorized trains and artillery, etc., have a part in the maneuver. This corresponds to the work of the Richmond Units, and is the first time the Regimental Unit Schools have been closely coördinated.

Most of our newly appointed officers seem to be travelling men, or infected with a wanderlust to see the world. Of the last two V.M.I. classes, only one officer seems to have permanently settled in Norfolk. Normally we expect five or six each year.

308th Cavalry—Pittsburgh, Pa.

COLONEL GEORGE H. CHERRINGTON, Cavalry-Reserve, *Commanding*

PROSPECTS are bright for a successful school year for this regiment. Attendance at conferences has been excellent so far with signs of improvement as the cold weather approaches. Drills and rides at the Fox Chapel Training Center are well attended, although a shortage of horses over last year and injuries to horses have handicapped those activities to some extent.

All improvements to the clubhouse, and most of those to the stables, which were planned for the present calendar year, have been completed. These included the building of a kitchen and storeroom, removal of the old fireplace, which occupied too large a space inside the building, and the construction of a new fireplace at the end of the room. At the stables several standing stalls have been constructed, necessary repairs made, and the entire clay floor has been replaced on a higher level. A tool house for motor lawnmowers, tools and equipment has also been constructed.

The trapshooting season opened on Sunday, October 18th, with seventeen shooters. The following Sunday the attendance was larger and on November 1st thirty-five shooters tried their luck. It is believed that the turkey shoot to be held the Sunday before Thanksgiving will be much better attended than was last year's. Installation of a new trap in an underground steel house has speeded up shooting and caused greater interest. The charge for shooting has been held to the minimum so that it is within reach of nearly all the members.

Plans are being made for the refresher courses for training the regiment to conduct the C.M.T.C. next summer at Fort Myer, Virginia. A large number of officers will be required for this duty and it is hoped that many who have been unable to attend camp for financial or business reasons will be available for this camp.

862d Field Artillery (Horse)—Baltimore, Md.

COLONEL ROGER S. B. HARTZ, Field Artillery-Reserve, *Commanding*

THE regiment is well into the 1936-1937 inactive training season, and a fair attendance at conferences has been secured thus far.

The regiment regrets the loss of its Unit Instructor, Lieutenant Colonel Cuyler L. Clark, Field Artillery, who has been detailed as Assistant Chief of Staff (G-2) at Headquarters, Third Corps Area.

Active Duty Training of the 311th Cavalry

By Captain Ralph M. Barry, Cavalry-Reserve

WE started gathering in the office of our beloved Colonel Daniel D. Tompkins, San Antonio, Texas, Saturday afternoon, July 18th, shaking hands, renewing acquaintances, making new ones and looking up our senior and junior officers, we of the 311th Cavalry. The next day was to start another active duty period at Fort Clark, the second year in which the 311th was to come into its own for two weeks. Happy was this group of Reserve officers, anxious to get in the saddle again, nervous with anticipation to be at the head of a troop once more, the dirt-eaters waiting to get behind the column pushing up the stragglers and to feel the grit and dirt between their teeth and in their whiskers. We who had been sitting behind stacks of papers all year, not even able to wear spurs to keep our feet from slipping off the desk, have been looking forward to this day.

After receiving the hearty congratulations of Colonel Tompkins and meeting Lieutenant Colonel Arthur E. Wilbourn, our new contact officer, who would be with us for the next two weeks, we gradually got off to Fort Clark.

Some of the officers arrived at Fort Clark Saturday night but most of us reached there Sunday morning and were comfortably quartered in the new R.O.T.C. camp consisting of tents with floors, side walls and electric lights with mess hall and bath house in the rear. Lieutenant Colonel H. B. Rhodes, commanding the 311th Cavalry, Major J. P. Williams, regimental executive, and the squadron commanders occupied tents at the end of the company street.

Most of the 35 officers ordered on this duty passed the medical examinations with flying colors, thanks to the patience of the Fort Clark medical officers. Right here let me digress and suggest to all who are called to active duty that it is a good idea to put old John Barleycorn in the guard house, at least until after you have finished with the medical examination.

As I mentioned before, at this camp the 311th Cavalry was to replace the officered personnel of the 5th Cavalry and on Monday morning, after an address of welcome by Colonel Robert C. Richardson, commanding Fort Clark, and our own Lieutenant Colonel H. B. Rhodes, we reported to our respective assignments, there to meet the Regular Army officer in charge, and immediately proceeded to take over his duties. This done, the 5th Cavalry officer walked out and left it with us. I am wondering if he doubted whether he would ever get his troop back into shape again after we left.

Prior to our going to camp, Colonel Rhodes made his training schedule for the regiment and sent it to his squadron commanders who in turn made theirs and sent both regimental and squadron training schedules to the troop commanders to complete the chain. After these were checked by the unit instructor and regimental commander, mimeographed copies were sent to all concerned to be studied in order that each officer could be prepared to carry out his part in the schedule.

The morning schedule, for the first week, was devoted to drill, mounted and dismounted; platoon exercises; advance, flank and rear guard; field messages, oral and written; care of equipment and animals; musketry and troops in mounted attack. Equitation for all Reserve officers was held at 6:30 every morning in order to allow the rusty ones a chance to limber up before starting the day's work.

The afternoon schedule for Tuesday and Wednesday consisted of troop administration, orientation of the following day's work, machine gun instruction and exercises, chemical warfare instruction all conducted by Reserve officer instructors. Thursday and Friday was regimental CPX, observed or participated in by all Reserve officers. It proved to be quite interesting. After a schedule of this kind, which occupied every minute of our time from 5:00 A.M. to 5:30 P.M., we were permitted to sojourn to the mess hall where the mess sergeant would, for a dime, let you have something that would wash down the dirt and drive away your cares and where too, you could expect to find Major Tate, jovial commander of the 1st Squadron, of which there is none better.

Saturday was regimental review and thanks to somebody's forethought, this was held on the drill field where there was ample room for everything and everybody, including the armored cars and motorcycles, in which they hang on the side or stand up in the little "bath tub" and salute as they go by. Your correspondent may break his arm at it yet; but, I am telling you, this was a real review. Heads up, straight lines, snappy salutes, no crowding and no great intervals. The enlisted personnel of Fort Clark certainly came across for us that day, and it was the consensus of opinion that this was a show for which no excuses need be made.

Saturday afternoon Colonel Tompkins brought a pistol team from the San Antonio Cavalry Club which we took on and attempted to beat, but after concessions and cups, both sides agreed to say nothing more about it.

Monday morning the troop commanders took over their commands in earnest and worked hard on march gaits, distances and discipline, also security, scouting, and patrolling. Squadron commanders took command and worked their outfits over and over until it seemed that horses and men would drop in their tracks, but that made no difference, we were going to start on our three-day hike the next morning and this was no time for fooling. That noon the mess sergeant did a bigger dime business than ever but it was only short lived, for we were sent back to our troops as soon as lunch was over and began assembling forage and equipment in preparation for the march early next morning. This for some of us went on far into the night and it was a very serious bunch of Reserve officers at dinner and not many dimes

were spent that evening, for tomorrow the regiment would move out with its full component of Reserve officers headed by Lieutenant Colonel Rhodes commanding, Major Williams, Regimental Executive, Major T. B. Tate, commanding 1st Squadron, and Major Vernon Hastings commanding 2d Squadron. Lieutenant Colonel Arthur E. Wilbourn would be the only Regular army officer to stay with the regiment throughout the hike.

The regiment moved out on schedule Tuesday morning, after Colonel Rhodes gave us the situation. Troop B, under Captain J. I. Kellogg, was the advance guard, and, from all the writer could learn, their part of the problem was ably executed. The first morning's march was from Fort Clark to the pecan grove via Spofford, a distance of about 23 miles. The road to Spofford is paved, so the regiment straddled it and moved along smoothly. We were facing the southeast breeze, when there was one, and although this Texas July sun was beginning to bear down, horses and men stood the trip well. Turning west from Spofford to the pecan grove was a different matter and we soon found that it was not possible to keep the gait that the pace setter had been instructed to maintain. The horses of the 5th Cavalry were in excellent condition when we took over the regiment, as they had recently returned from the division maneuvers at Marfa. However, a few of the animals were not able to take the terrific heat and dust at that gait, therefore Colonel Rhodes halted and set a slower pace into the pecan grove, thereby saving horses and men. This was a valuable lesson to all Reserve officers, teaching us that horses and men must be watched carefully, in the terrible heat we have here in Texas in the summer time.

The night was spent at the pecan grove and next morning we moved on down to Las Moras crossing, a distance of about 20 miles. The hike down there was uneventful except that the 1st Squadron was to have put on a show for a group of Boy Scouts who for some reason failed to show up. However, we went on as planned and Major Tate led his squadron in mounted attack against the 2d Squadron dismounted and without losing a single Reserve officer too, which we considered remarkable.

Wednesday night we spent at Las Moras crossing and moved out early Thursday morning, doubling back to the pecan grove again. The problem was a rear guard action with your correspondent in command of Troop A taking the honors, if any. At the watering, the Colonel's orders were misunderstood and the 1st Squadron, which was in the rear, dismounted and led at least three miles to the water hole. These fellows are an efficient group of officers and the making of a wonderful Reserve Corps. A large percentage of the 311th come from either Texas A. & M. College or New Mexico Military Institute and have an excellent background of training. They have what it takes to make crackerjack officers.

Thursday we enjoyed a night march from the pecan grove to Fort Clark and Friday we turned the command back to the 5th Cavalry. Pay came that afternoon and by evening the site that once was thriving with Reserve officers was now a deserted village.

That this sort of training for Reserve officers cannot be stressed too strongly is the opinion of everyone with whom the writer came in contact. The Reserve officers are given a responsibility and they must do something. All winter we work these things out on maps and put them down on paper but when it comes to getting out in front and leading men into what, if it were the real thing, might be sudden death, one must know what he is doing and have practice in it, not just stand off and watch someone else go through the motions and then say if he ever has a chance he will know what to do.

Failure to give due credit to the 2d Squadron in their work does not intend to indicate that they were in the midst of things less than the 1st Squadron. Quite the contrary. However, they were handicapped from the beginning due to the fact that one of their troops was at the Texas Centennial, chosen to give some exhibition drills, etc., up there and did not return to the regiment until the second week of camp. They were ably commanded by Major Vernon Hastings and always came through with flying colors.

Too much cannot be said of the splendid coöperation of Colonel Robert C. Richardson and his officers. They were the ones who stood to lose if the Reserves failed to come across. The men and noncommissioned officers of the 5th Cavalry deserve every commendation for their coöperation and assistance.

To our unit instructor, Lieutenant Colonel Wilbourn goes the highest praise. He took over these duties only two weeks before camp. His predecessor, Lieutenant Colonel Edwin O'Connor, who held the initial camp last year, did all the preliminary work but was transferred just prior to camp and Colonel Wilbourn had a child on his hands to rear with no time for preparation. Like the good cavalryman that he is, he stepped into the breach and gave us assistance and constructive criticism where needed. We all appreciated his efforts a great deal. We missed Colonel O'Connor, whom we had learned to admire a lot.

To our regimental commander, Lieutenant Colonel H. B. Rhodes, our love and respect. He can take it and dish it out too. He is a busy man in civil life but not too busy to keep in touch with and in the summer command the 311th Cavalry in an exemplary manner.

The opinion of all on the parting day was that everyone had worked hard but had been amply repaid in experience. I wouldn't have traded mine for anyone else in the world and I believe I speak the thoughts of all the troop commanders of the 311th Cavalry. Adios, Amigos, hasta el año que viene.

Roster of Regular Army Cavalry Officers Not Assigned to Regiments

(NOTE: Regimental rosters appear with reports of activities of the various organizations.)

Office, Chief of Cavalry, Washington, D. C.

Chief of Cavalry
Major General
Leon B. Kromer

Colonels
Guy Kent
Alexander M. Miller, Jr.

Lieutenant Colonel
Henry J. M. Smith

Majors
Robert W. Grow
Louis LeR. Martin
Frank L. Whittaker

Captain
Charles S. Miller

The Cavalry Board, Fort Riley, Kans.

Colonels
Llewellyn W. Oliver
Charles R. Mayo

Lieutenant Colonel
Wilfrid M. Blunt

Majors
Charles F. Houghton
Stephen Boon, Jr.

Captain
Elmer V. Stansbury

Commandant, Staff, and Faculty, The Cavalry School, Fort Riley, Kans.

Brigadier General
Guy V. Henry

Colonel
Clarence Lininger

Lieutenant Colonels
Charles B. Hazeltine
Terry de la M. Allen
Cuthbert P. Stearns

Majors
John J. Bohn
Isaac G. Walker
Frank A. Allen, Jr.
Ray T. Maddocks
George I. Smith

First Lieutenants
Edwin H. J. Carns
Paul D. Harkins
William H. Hunter

Staff and Faculty, The Infantry School, Fort Benning, Ga.

Major
Kramer Thomas

Staff and Faculty, The Field Artillery School, Fort Sill, Okla.

Major
Rinaldo L. Coe

Staff and Faculty, Air Corps Tactical School

Major
Richard L. Creed

Staff and Faculty, Engineer School

Major
Alexander B. MacNabb

Staff and Faculty, The Coast Artillery Corps School, Fort Monroe, Va.

Major
Otto B. Trigg

Staff and Faculty, Command and General Staff School, Fort Leavenworth, Kans.

Lieutenant Colonels
Thoburn K. Brown
Kenna G. Eastham
Frederick Gilbreath
Raymond E. McQuillin

Majors
Wayland B. Augur
Harold deB. Bruck
Cornelius M. Daly
Oliver L. Haines
William K. Harrison, Jr.
Frederick R. Lafferty
Harrold C. Mandell
Albert C. Smith
Lucian K. Truscott, Jr.

First Lieutenant
Henry M. Zeller

Staff and Faculty, Army War College, Washington, D. C.

Colonels
William W. Gordon
George B. Hunter

War Department General Staff, Washington, D. C.

Colonel
Adna R. Chaffee

Lieutenant Colonels
John B. Coulter
Alexander D. Surles
William Nalle
Robert W. Strong
Pearl L. Thomas

Majors
Roderick R. Allen
Earnest N. Harmon

General Staff with Troops

Colonels
Joseph A. Baer, Baltimore, Md.
William C. Christy, Fort Hayes, Ohio
Donald A. Robinson, Manila, P. I.
William W. West, Fort Hayes, Ohio

Lieutenant Colonels
Edward C. McGuire, San Francisco, Calif.
Pearson Menoher, Boston, Mass.
George S. Patton, Jr., Fort Shafter, T. H.

Majors
Roy E. Blount, Fort Lewis, Wash.
William T. Hamilton, Fort Sam Houston, Tex.
James M. Shelton, Omaha, Neb.

Army Staff

Colonel
Kenyon A. Joyce, San Francisco, Calif.

Duty with General Staff

Majors
David H. Blakelock, Atlanta, Ga.
Carl H. Strong, Governors Island, N. Y.

Military Attaches

Majors
Gustave B. Guenther, Riga, Latvia
Normon E. Fiske, Rome, Italy
John A. Weeks, Santiago, Chile
Royden Williamson, Istanbul, Turkey

United States Military Academy, West Point, N. Y.

Captains
Clarence C. Clendennen
Harrold M. Forde
Thomas L. Harrold
Willard A. Holbrook
Lawrence E. Schick
Ronald M. Shaw
Ira P. Swift
Egon R. Tausch
William H. Wood

First Lieutenants
Thomas J. Brennan, Jr.
Frank H. Britton
Woodbury M. Burgess
Charles G. Dodge
William H. Greear
Albert E. Harris
John L. Inskeep
O'Neil K. Kane
Alexander M. Miller, III
Theodore S. Riggs
Chandler P. Robbins, Jr.
Glenn F. Rogers
Karl L. Scherer
Thos. F. Van Natta, III

Students, The Cavalry School, Fort Riley, Kans. Special Advanced Equitation Course

Captain
William J. Bradley

First Lieutenants
William E. Chandler
William W. Culp
Cornelius A. Lichirie
Charles B. McClelland, Jr.
George R. Mather
James B. Quill
Scott M. Sanford
John K. Waters
William H. S. Wright

Regular Course

Captains
John M. Bethel
Charles H. Bryan
Claude O. Burch
John H. Collier
John B. Cooley
Frederick W. Drury
Harold Engerud
Martin A. Fennell
Alan L. Fulton
Harrison H. D. Heiberg
Henry C. Hine, Jr.
Hugh F. T. Hoffman
Eugene C. Johnston
Lyman L. Judge
Morris H. Marcus
Paul MacK. Martin
Charles H. Martin
James K. Mitchell
Louis B. Rapp
George W. Read, Jr.
Donald W. Sawtelle
John K. Sells
Virgil F. Shaw
Lawrence G. Smith
Thomas T. Thornburgh
John R. Thornton
John T. Ward
John W. Wofford

Students, Command and General Staff School, Fort Leavenworth, Kans.

Majors

Truman E. Boudinot
Marion Carson
Dwight Hughes, Jr.
Maurice Rose
Arthur H. Truxes

Captains

William L. Barriger
Edwin M. Burnett
Mark A. Devine, Jr.
Thomas Q. Donaldson, Jr.
George G. Elms
Andrew E. Forsyth
Eugene L. Harrison
Henry I. Hodes
George B. Hudson
Fred W. Koester
Harry C. Mewshaw
Francis P. Tompkins
Willard G. Wyman
Juan S. Moran

Students, Army War College, Washington, D. C.

Lieutenant Colonels

Karl S. Bradford
Geoffrey Keyes
Harold M. Rayner

Majors

James W. Barnett
Charles S. Kilburn
John T. Pierce, Jr.
Adolphus W. Roffe

Captain

Paul McD. Robinett

Student, Naval War College, Newport, R. I.

Lieutenant Colonel

Jack W. Heard

Students, Army Industrial College, Washington, D. C.

Lieutenant Colonel

Francis C. V. Crowley

Major

Mordaunt V. Turner

Student, The Infantry School, Fort Benning, Ga.

Captain

Edward J. Doyle

Student, Air Corps Tactical School, Maxwell Field, Ala.

Captain

Henry L. Kinnison, Jr.

Students, The Signal School, Fort Monmouth, N. J.

Captain

Frank G. Trew

First Lieutenant

David A. Watt, Jr.

Language Students, Tokyo, Japan

Captain

Alexander George

First Lieutenant

Eric H. F. Svensson, Jr.

Student, Columbia University, New York, N. Y.

First Lieutenant

Joseph A. Michela

Duty with the Organized Reserves

Colonels

Conrad S. Babcock, New York, N. Y.
Robert Blaine, Chattanooga, Tenn.
Hugh H. Broadhurst, Kansas City, Mo.
Richard E. Cummins, Boston, Mass.
George Dillman, Los Angeles, Calif.
Kinzie B. Edmunds, Salt Lake City, Utah.
Oscar Foley, Tacoma, Wash.
Francis W. Glover, Charleston, S. C.
Frederick D. Griffith, Jr., Louisville, Ky.
Stanley Koch, Lexington, Ky.
Osmun Latrobe, Omaha, Neb.
John D. Long, Towson, Md.
Isaac S. Martin, Chicago, Illinois
Carl H. Muller, St. Louis, Mo.
Alexander M. Milton, San Francisco, Calif.
Edward M. Offley, Towson, Md.
Ralph M. Parker, Detroit, Mich.
Emil P. Pierson, New Orleans, La.
Jerome G. Pillow, Philadelphia, Pa.
Robert C. Rodgers, Marion, Ill.
George M. Russell, New York, N. Y.
Thomas L. Sherburne, Indianapolis, Ind.
Howard R. Smalley, Rochester, N. Y.
Daniel D. Tompkins, San Antonio, Tex.
Arthur H. Wilson, Philadelphia, Pa.

Lieutenant Colonels

John K. Brown, New York, N. Y.
Edward L. N. Glass, Richmond, Va.
John B. Johnson, Chicago, Ill.
Welton M. Modisette, Newark, N. J.
Henry McE. Pendleton, Towson, Md.
Harold Thompson, Kansas City, Mo.
John F. Wall, New Haven, Conn.
Arthur E. Wilbourn, San Antonio, Tex.

Majors

Harry H. Baird, Boston, Mass.
Alfred L. Baylies, Milwaukee, Wis.
Charles W. Burkett, St. Louis, Mo.
Richard W. Carter, Detroit, Mich.
James K. Cockrell, Huntington, West Va.
Lathan H. Collins, Miami, Fla.
Richard W. Cooksey, New York, N. Y.
Ernest F. Dukes, Buffalo, N. Y.
James R. Finley, Norfolk, Va.
Louis G. Gibney, Pittsburgh, Pa.
Harold B. Gibson, Nashville, Tenn.
Harrison Herman, New Haven, Conn.
Alton W. Howard, Champaign, Ill.
Nelson M. Imboden, Du Bois, Pa.
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Captain

Oscar M. Massey, New York Port of Embarkation, Brooklyn, N. Y.

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